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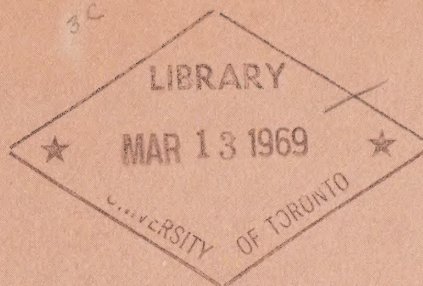




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Government  
Publications

**STANWELL-FLETCHER LAKE  
SOMERSET ISLAND, N. W. T.  
1965 - 1966**

**No. 1**

**1968 Data Record Series**

**Canadian Oceanographic Data Centre**

**Programmed by the  
Canadian Committee on Oceanography**

**1968**



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**STANWELL-FLETCHER LAKE  
SOMERSET ISLAND, N. W. T.  
1965 - 1966**

**CODC References: 07-65-002  
07-66-002**

**No. 1**

**1968 Data Record Series**

**Canadian Oceanographic Data Centre  
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STANWELL-FLETCHER LAKE  
SOMERSET ISLAND, N.W.T.  
1962-1966

CODC Reference: 87-82-802  
87-84-083

No. 1

1966 Data Record Series



Canadian Oceanographic Data Centre  
615 Booth St., Ottawa, Canada

Prepared by the Canadian Commission on Oceanography



DEPARTMENT OF GEOLOGY

STANWELL-FLETCHER LAKE

SOMERSET ISLAND, N.W.T.

Periods of Survey:

May 18 - July 3, 1965

May 20 - May 28, 1966

Observers:

J.P. Coakley

B.R. Rust

UNIVERSITY OF OTTAWA - Ottawa





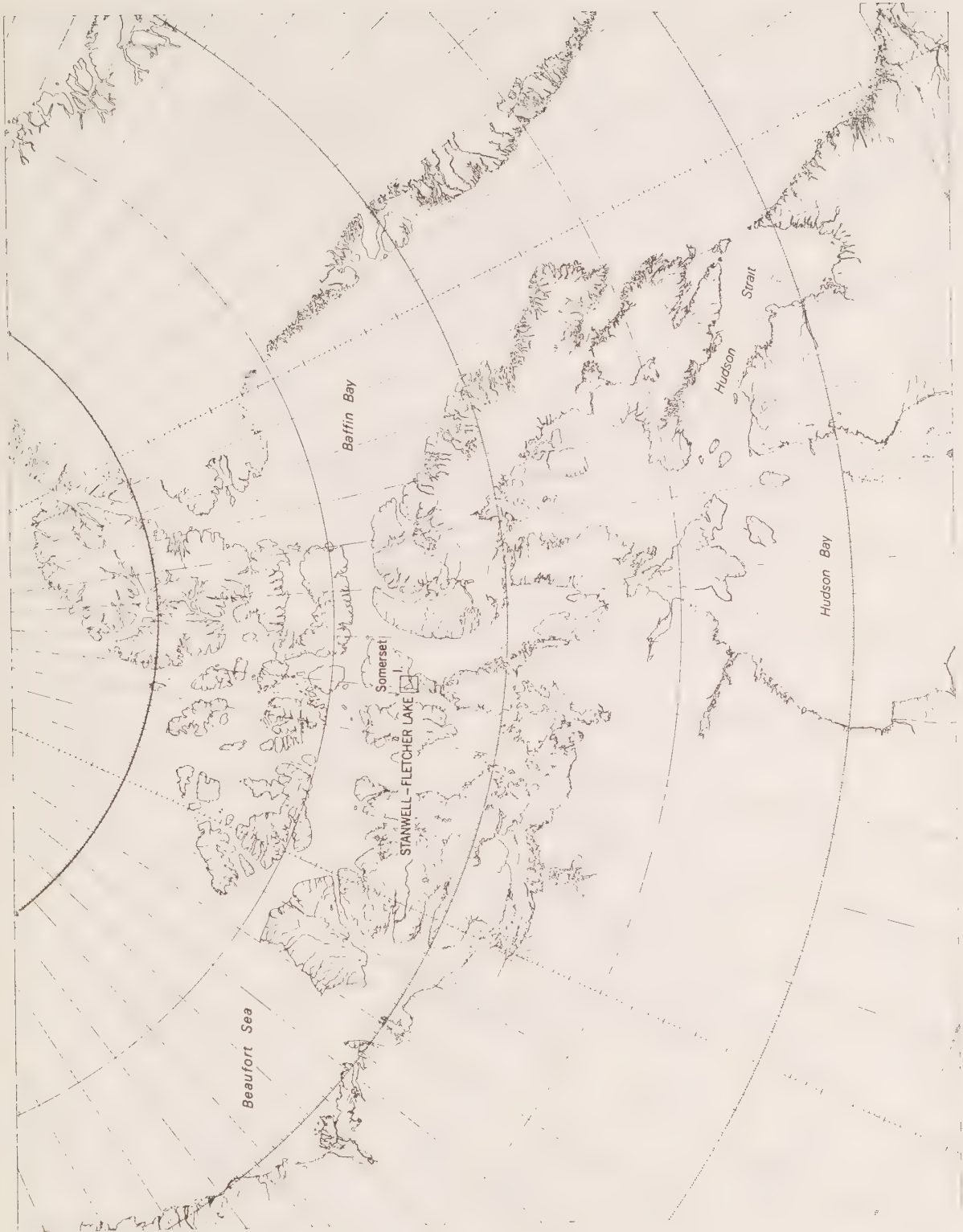


Fig. 1

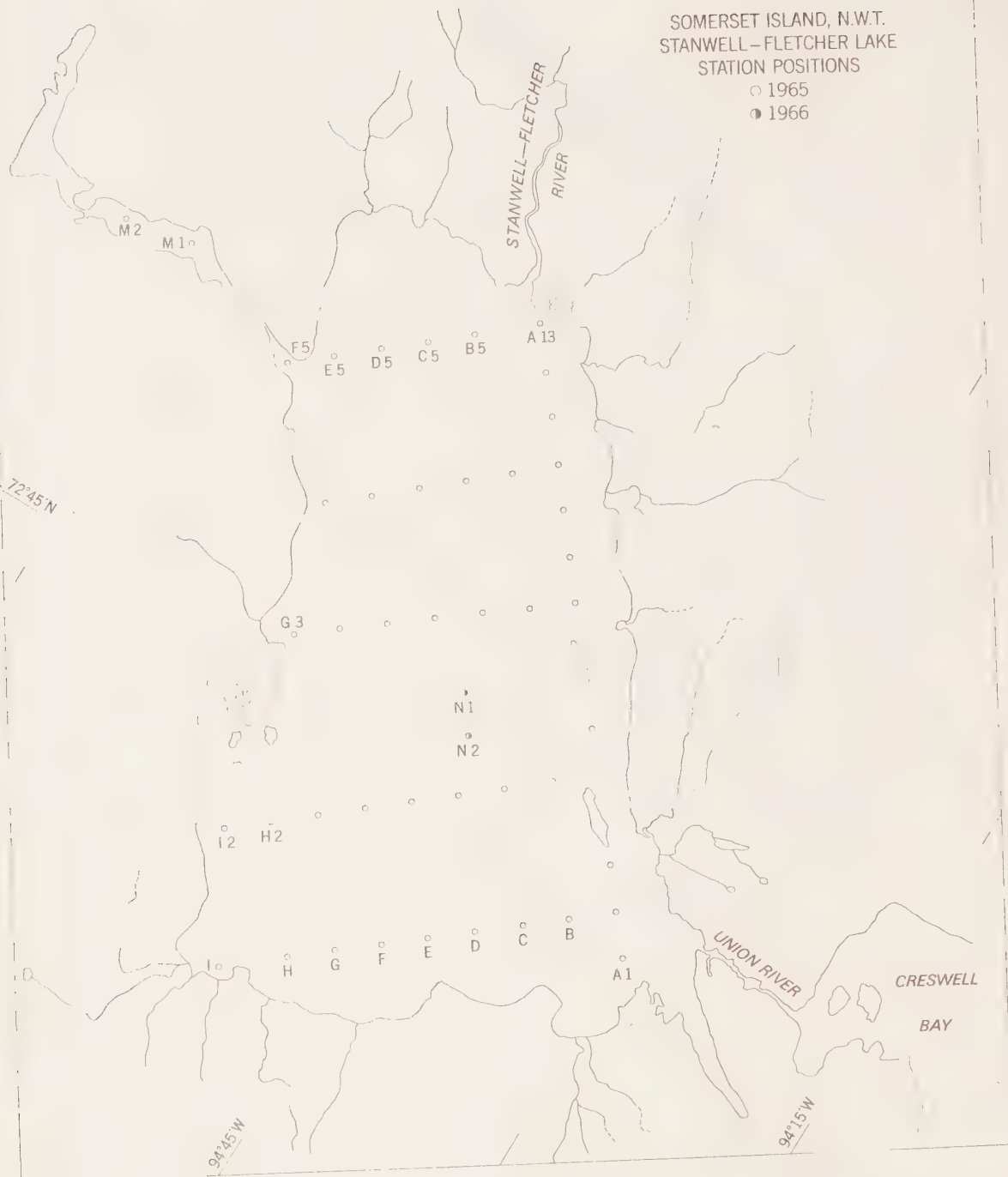


Fig. 2



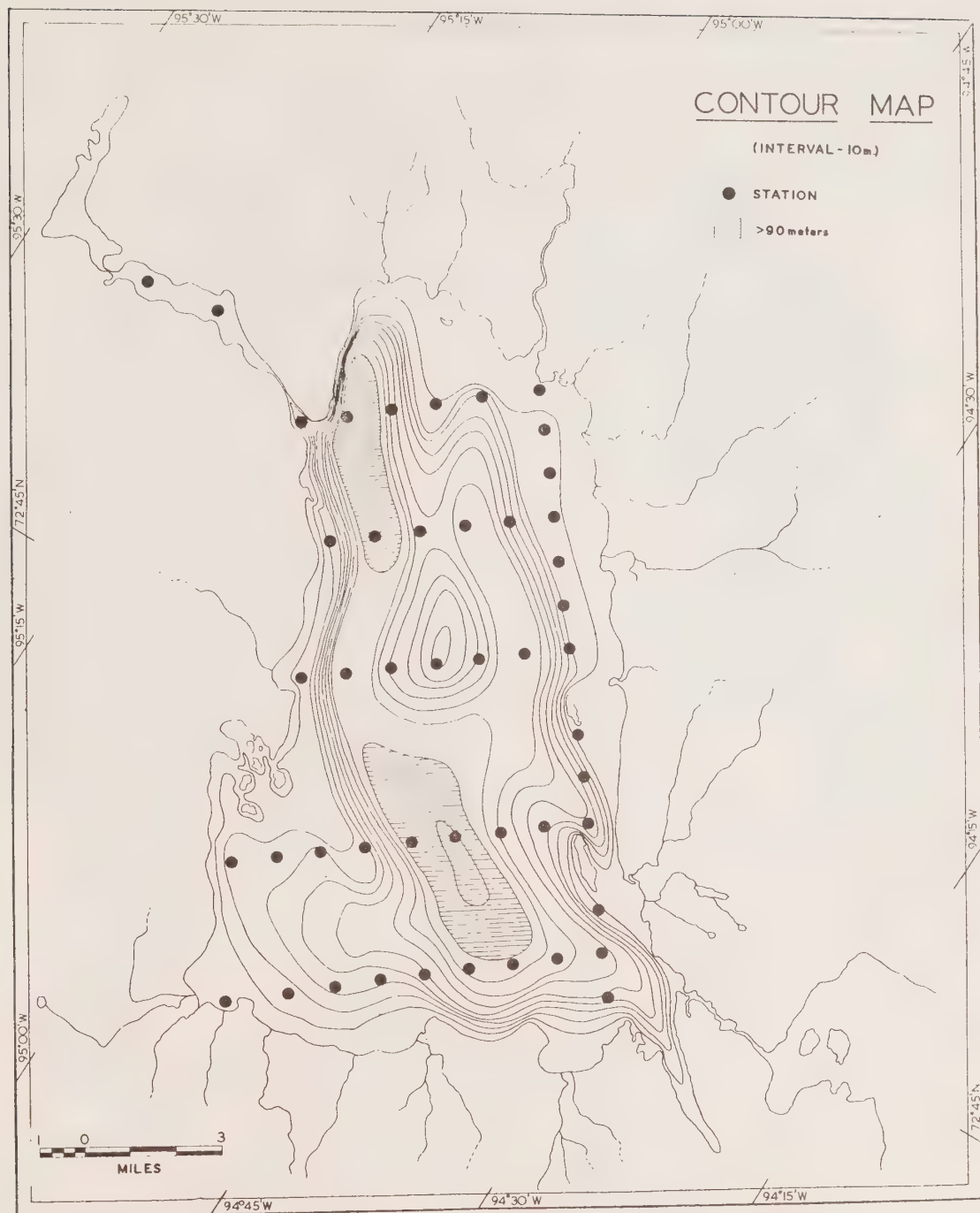


Fig. 3

LIST OF FIGURE CAPTIONS

- Figure 1    General location of Stanwell-Fletcher Lake .
- Figure 2    Location of the positions occupied in 1965 and 1966.
- Figure 3    An interpretation of the depth data obtained in 1965  
              (from Coakley, 1966) .









## INTRODUCTION

During the early summers of 1965 and 1966 expeditions to Somerset Island, N.W.T. were conducted by the University of Ottawa; these have been described by Dineley (1965; 1966). A portion of the programme of observations related to the physical limnology of Stanwell-Fletcher Lake (Fig. 1) and it is the purpose of this record to present some of these data. The sedimentology, physical limnology and post-Pleistocene history of Stanwell-Fletcher Lake have been described by Coakley (1966) and Rust and Coakley (1966). Further accounts are being prepared for publication.

In 1965 forty-five sample stations were established on the ice of Stanwell-Fletcher Lake and two on a small adjacent lake (Fig. 2), using distances measured by cyclometer. Water samples were collected with a Knudsen bottle and water temperatures were recorded by bathythermograph and reversing thermometers. Bottom sediments were sampled with a gravity corer and a grab. In 1966 seven bathythermograph lowerings were made at two positions (Fig. 2).

Stanwell-Fletcher Lake is situated in southwest Somerset Island, in the central Arctic Islands. It has an area of  $260 \text{ km}^2$  ( $131 \text{ mi}^2$ ), a maximum depth of 104 m (341 ft.) (Fig. 3) and an elevation of about 8 m (25 ft.) above mean sea level. The Stanwell-Fletcher River is the largest entering the lake and the Union River is the only outlet, flowing 4 km to the sea at Creswell Bay (Fig. 2). The lake basin occupies an ancient graben in which soft Tertiary-Cretaceous sandstone is downfaulted into metamorphic rocks of the Precambrian Shield (Rust, in press). The lake resulted from the filling of a glacially scoured depression in the sandstone.

Notable features of the climate of the area are the short periods of above-freezing average temperature (in July and August), the high incidence of cloud cover and the low annual precipitation (11.3 cm, 1964-65: measured at Resolute Bay). Hence surface runoff and melting of the lake ice occur during two months only. In 1965, 95% of the lake ice cover (which is 1.8-2.5 m thick) remained intact, but in 1966 warmer weather and wind caused considerable breakup by the end of the melt season.

There is limited published information on the perennially ice-covered lakes of high latitudes (the polar lakes of Forel, quoted by Ruttner, 1953). Angino, Armitage and Tash (1964) described a permanently unmixed layer of warm saline water at the bottom of Lake Bonney, Antarctica,

and concluded it to be relict sea water. Hattersley-Smith and Serson (1964) reported a similar feature in a lake on northern Ellesmere Island. Hutchinson (1957) commented on the relative rarity of cold monomictic lakes (equivalent to polar lakes, the category into which Stanwell-Fletcher falls) and also on the lack of information on their thermal cycles.

Hobbie (1961) made thermal studies of Lake Schrader, Alaska, for two consecutive summers and found that conditions varied considerably. Livingstone, Bryan and Leahy (1958) observed thermal relationships between lakes and permafrost, water chemistry and biological activity of thaw lakes (i.e. those developed on permafrost) in northern Alaska. Livingstone (in Frey, 1963) reviewed biological and other work on lakes in Alaska, Yukon, Northwest Territories and Greenland. Most other authors have included biological aspects in their limnological studies.

This project was carried out by members of the Department of Geology, University of Ottawa. Financial support was given by the Department of Northern Affairs, the Geological Survey of Canada and the National Research Council of Canada. Oceanographic equipment was loaned by the Marine Sciences Branch and a snow vehicle by Outboard Marine Corporation of Canada Ltd.

### THE DATA

At each position in Stanwell-Fletcher Lake a lowering of a shallow bathythermograph (in 1966 an intermediate depth unit was available) and a lowering, for a near-bottom sample, of a reversing bottle fitted with two reversing thermometers were carried out. The latter data are shown in Table 1. A number of the water samples were analysed (by the Industrial Waters Section, Mines Branch) and the water determined to be very soft. The bathythermograms for each year are presented in the last section of this record. The number on each is the consecutive slide number and relates each slide to the data of Tables 1 and 2.







STANWELL - FLETCHER LAKE

1965

BATHYTHERMOGRAMS

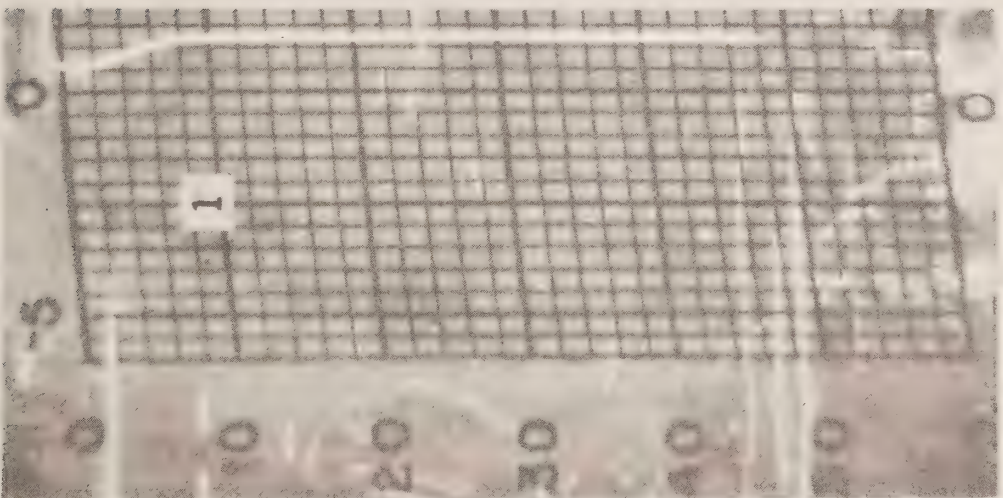
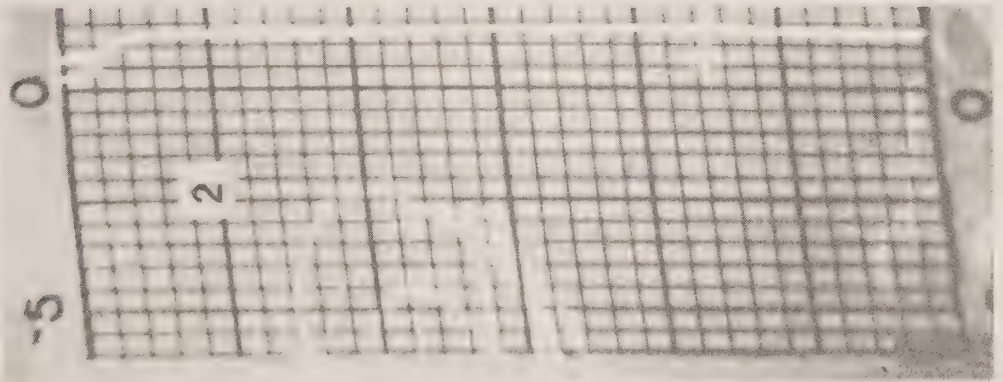
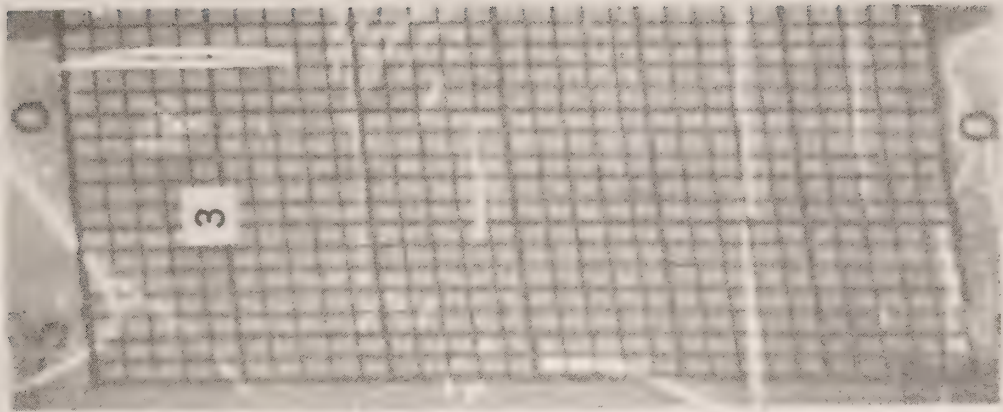




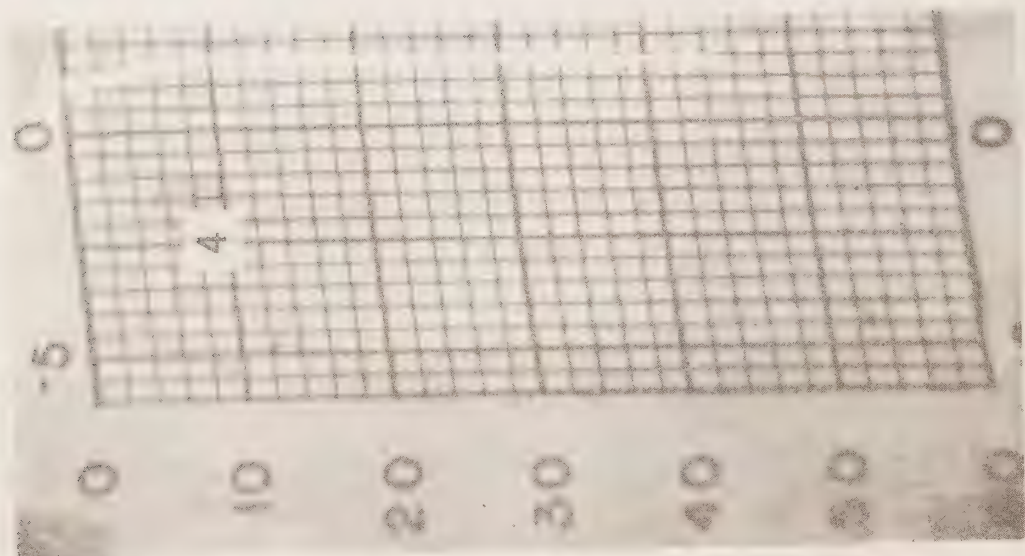
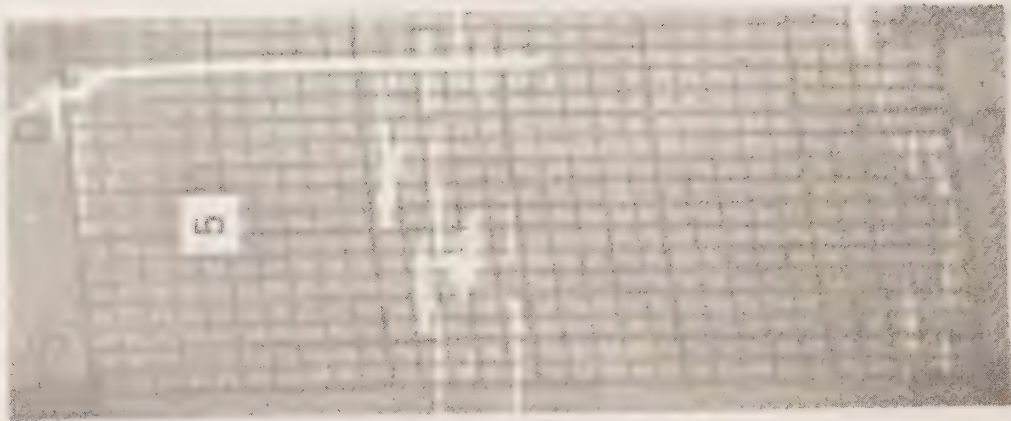
Table 1 - A listing of the stations occupied in Stanwell-Fletcher Lake in 1965 indicating the location, consec slide number, day and month, lat and long, ice thickness, depth and bottom temperature.

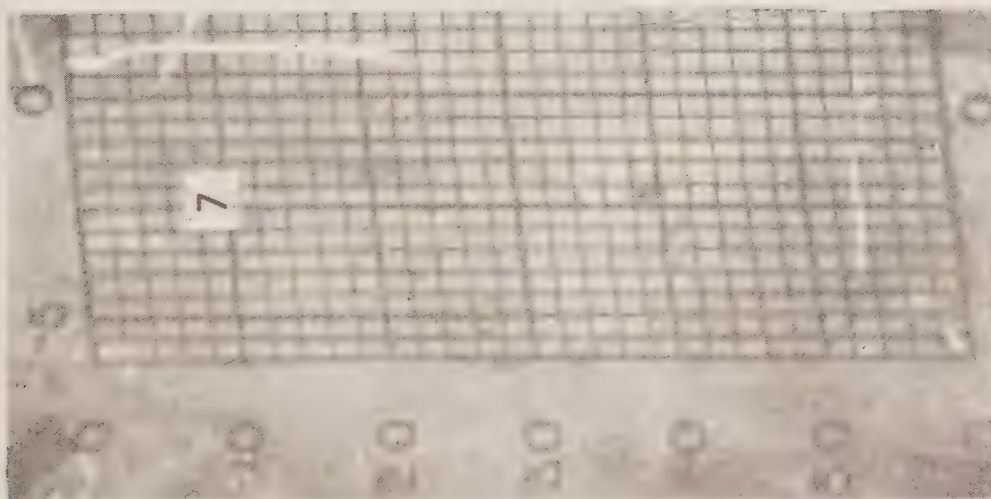
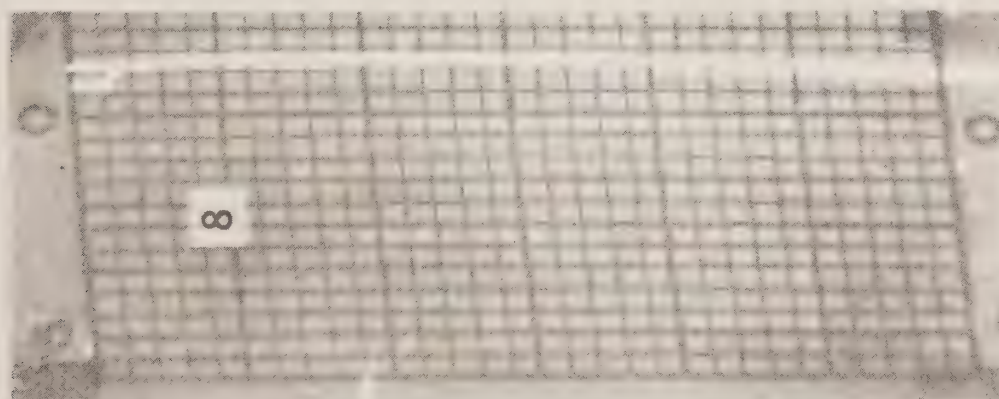
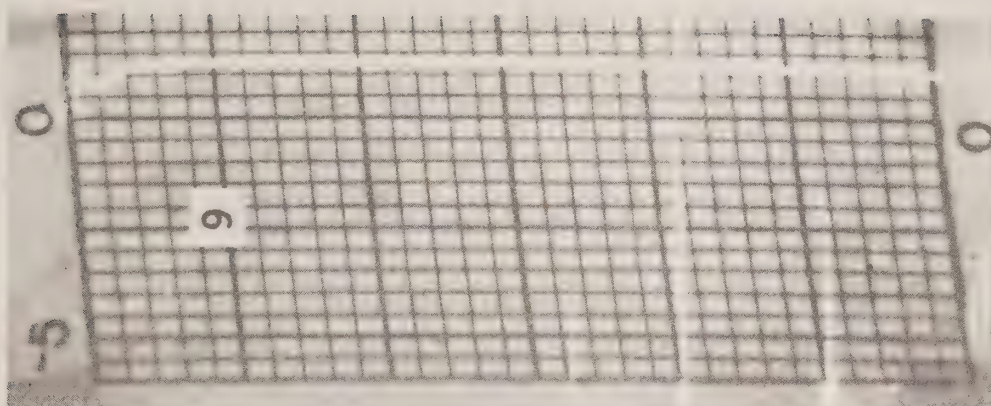
| <u>Location</u> | <u>Slide No.</u> | <u>Day Month</u> | <u>Lat. N.</u> | <u>Long W.</u> | <u>Ice (m)</u> | <u>Depth (m)</u> | <u>Bottom T(°C)</u> |
|-----------------|------------------|------------------|----------------|----------------|----------------|------------------|---------------------|
| A-1             | 1                | 18-V             | 72 42          | 94 30          | 2.1            | 49.4             | 1.34                |
| -2              | 2                | 19-              | 43             | 33             | 2.2            | 60.1             | 1.40                |
| -3              | 3                | 20-              | 45             | 35             | 2.4            | 16.2             | 1.26                |
| -4              | 4                | 20-              | 47             | 38             | 2.2            | 47.0             | 1.30                |
| -5              | 5                | 21-              | 49             | 40             | 2.3            | 33.6             | 1.38                |
| -6              | 6                | 21-              | 50             | 42             | 1.9            | 10.4             | 1.04                |
| -7              | 7                | 23-              | 51             | 45             | 2.1            | 22.4             | 1.34                |
| B-1             | 8                | 24-              | 42             | 35             | 2.1            | 73.6             | 1.48                |
| C-1             | 9                | 26-              | 42             | 38             | 2.1            | 88.1             | 1.46                |
| D-1             | 10               | 26-              | 41             | 40             | 2.2            | 87.7             | 1.49                |
| E-1             | 11               | 27-              | 41             | 42             | 2.1            | 47.1             | 1.37                |
| F-1             | 12               | 28-              | 40             | 44             | 2.2            | 36.8             | 1.43                |
| G-1             | 13               | 28-              | 40             | 46             | 2.3            | 37.8             | 1.38                |
| H-1             | 14               | 29-              | 39             | 48             | 2.2            | 15.7             | 1.39                |
| I-1             | -                | 29-              | 39             | 50             | 1.8            | 3.8              | -                   |
| B-2             | 15               | 30-              | 46             | 40             | 2.4            | 42.2             | 1.38                |
| C-2             | 16               | 4-VI             | 45             | 43             | 2.2            | 69.3             | 1.47                |
| D-2             | 17               | 4-               | 44             | 45             | 2.1            | 103.7            | 1.53                |
| E-2             | 18               | 5-               | 43             | 47             | 2.3            | 90.4             | 1.48                |
| F-2             | 19               | 5-               | 42             | 49             | 2.2            | 24.4             | 1.04                |
| G-2             | 20               | 6-               | 41             | 51             | 2.2            | 36.9             | 1.30                |
| H-2             | 21               | 6-               | 40             | 53             | 1.8            | 22.1             | 1.16                |
| I-2             | 22               | 7-               | 39             | 55             | 2.1            | 20.7             | 1.36                |
| B-3             | 23               | 8-               | 51             | 47             | 2.2            | 74.4             | 1.44                |
| C-3             | 24               | 9-               | 50             | 50             | 2.2            | 49.5             | 1.41                |
| D-3             | 25               | 11-              | 49             | 53             | 2.1            | 25.8             | 1.40                |
| E-3             | 26               | 11-              | 48             | 55             | 2.1            | 59.2             | 1.41                |
| F-3             | 27               | 11-              | 47             | 57             | 1.9            | 82.9             | 1.47                |
| G-3             | 28               | 12-              | 46             | 59             | 1.9            | 18.0             | 1.34                |
| A-8             | 29               | 12-              | 53             | 47             | 2.1            | 18.7             | 1.38                |
| -9              | 30               | 12-              | 54             | 49             | 2.1            | 16.3             | 1.34                |
| -10             | 31               | 12-              | 55             | 51             | 2.3            | 12.8             | 1.28                |
| B-4             | 32               | 15-              | 55             | 53             | 2.4            | 48.4             | 1.39                |
| C-4             | 33               | 15-              | 54             | 56             | 2.1            | 78.5             | 1.50                |
| D-4             | 34               | 16-              | 53             | 58             | 1.9            | 62.4             | 1.43                |
| E-4             | 35               | 16-              | 52             | 95 00          | 2.1            | 90.6             | 1.52                |
| F-4             | 36               | 16-              | 51             | 02             | 2.1            | 24.4             | 1.39                |
| A-11            | 37               | 19-              | 56             | 94 53          | 2.1            | 11.7             | 1.32                |
| -12             | 38               | 19-              | 58             | 55             | 2.2            | 13.0             | 1.29                |
| -13             | -                | 19-              | 59             | 57             | -              | 0.8              | -                   |
| B-5             | 39               | 1-VII            | 58             | 59             | 1.8            | 32.5             | 1.54                |
| C-5             | 40               | 1-               | 57             | 95 01          | 1.7            | 11.7             | 1.53                |
| D-5             | 41               | 1-               | 56             | 03             | 1.7            | 61.7             | 1.47                |
| E-5             | 42               | 2-               | 55             | 06             | 1.6            | 97.7             | 1.58                |
| F-5             | 43               | 3-               | 54             | 08             | 2.1            | 25.8             | 1.53                |
| M-1             | 44               | 3-               | 56             | 16             | -              | 22.0             | -                   |
| M-2             | 45               | 3-               | 54             | 22             | -              | 18.9             | -                   |

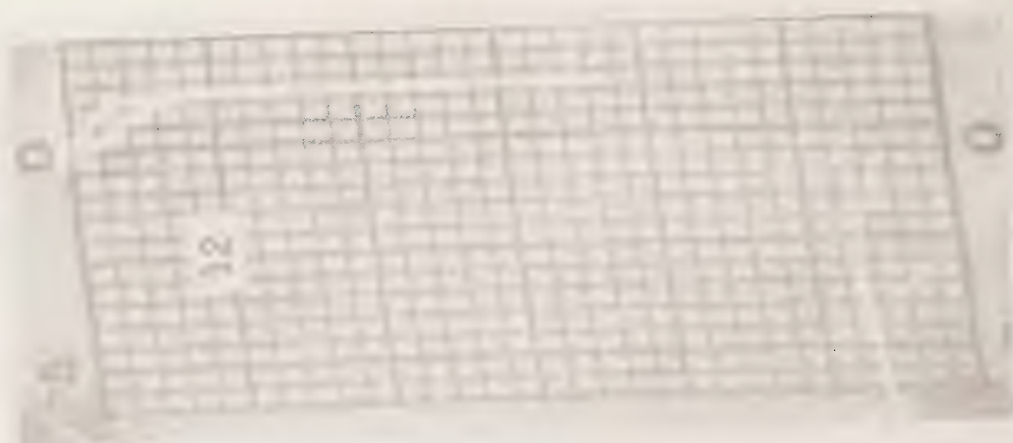




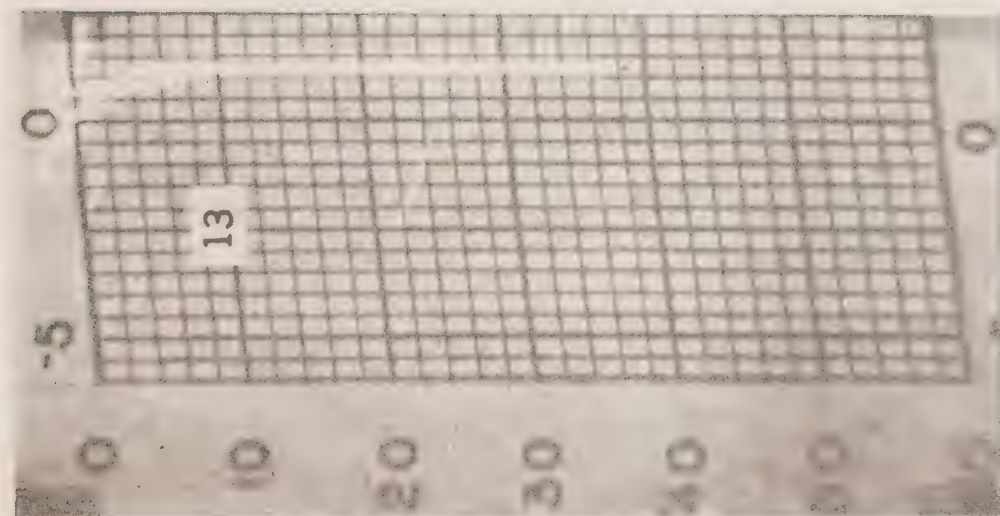
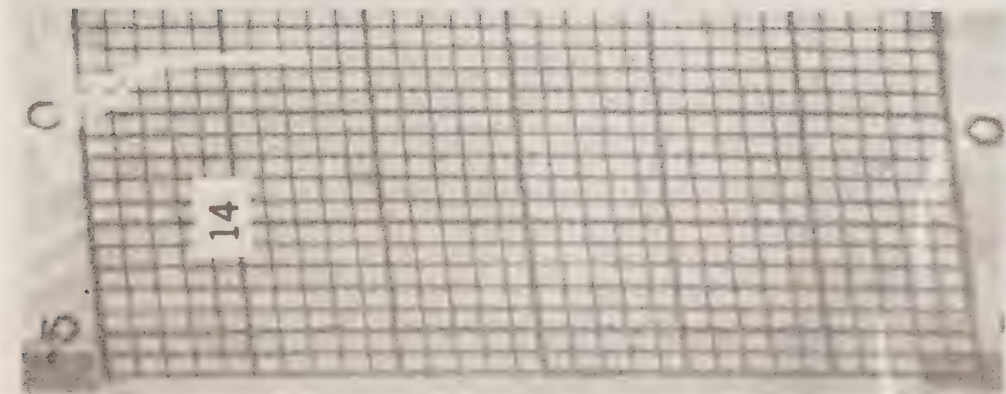
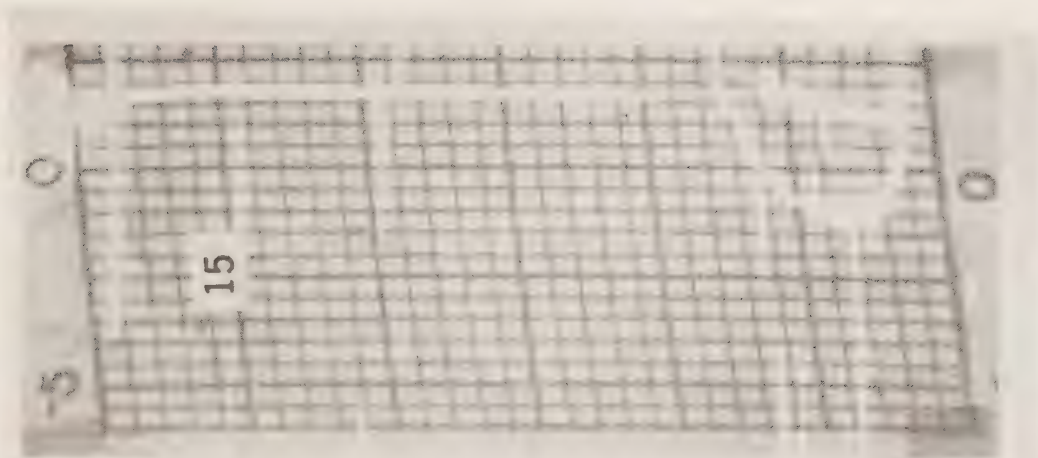


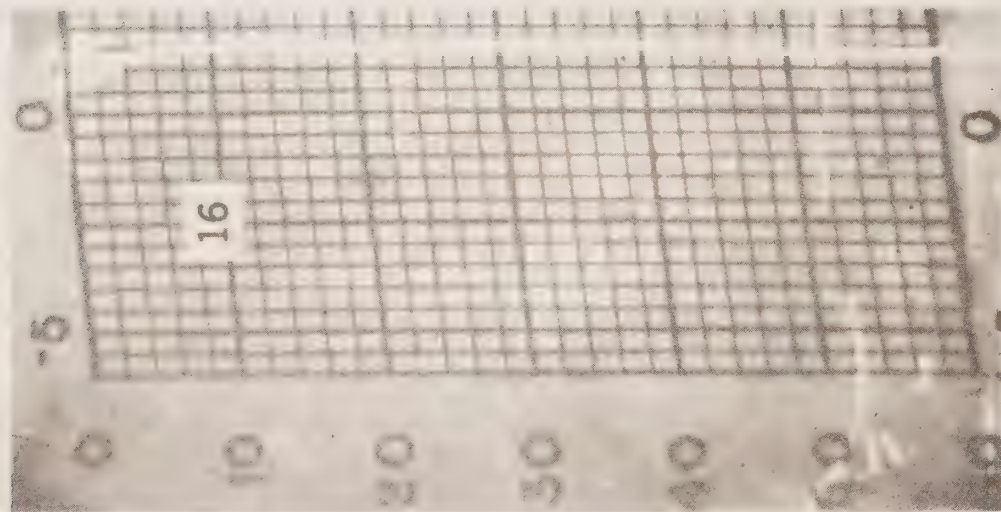
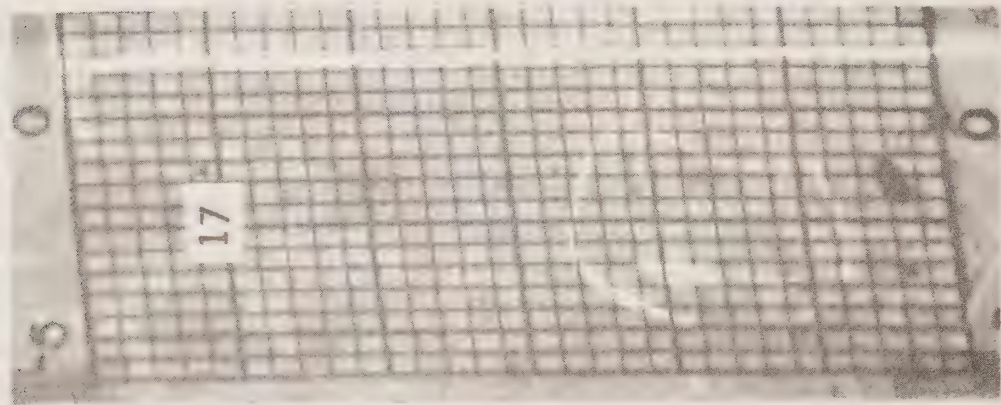
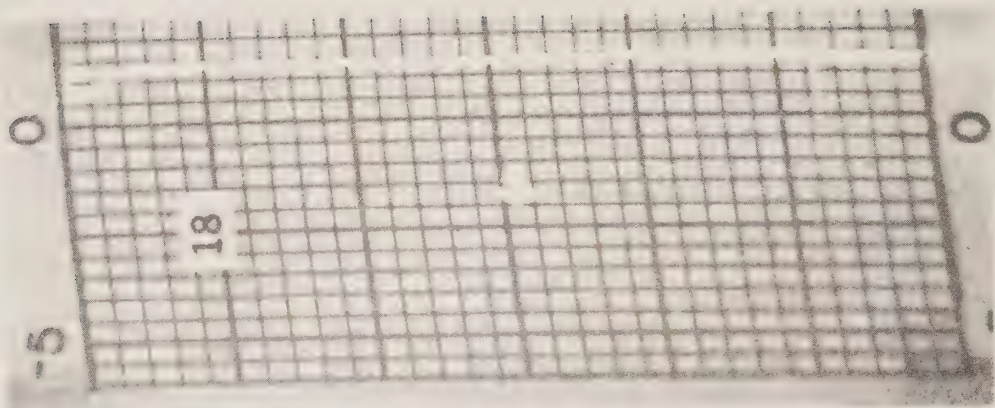




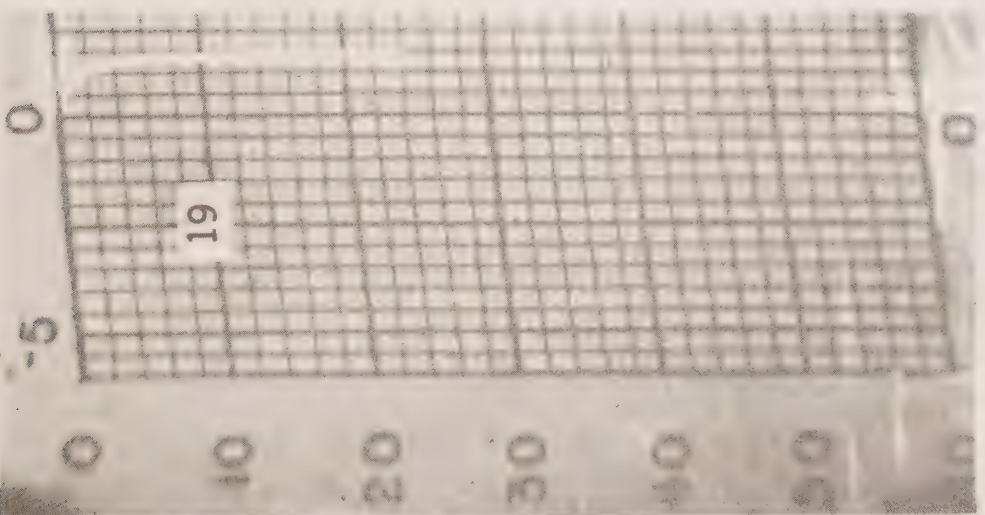
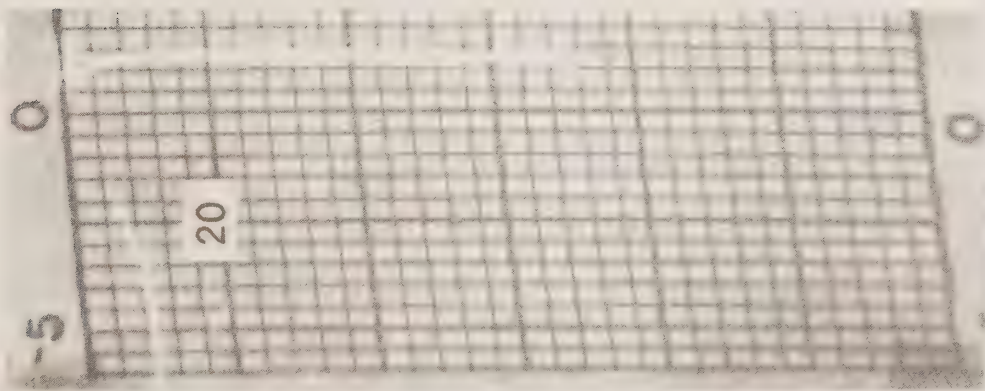
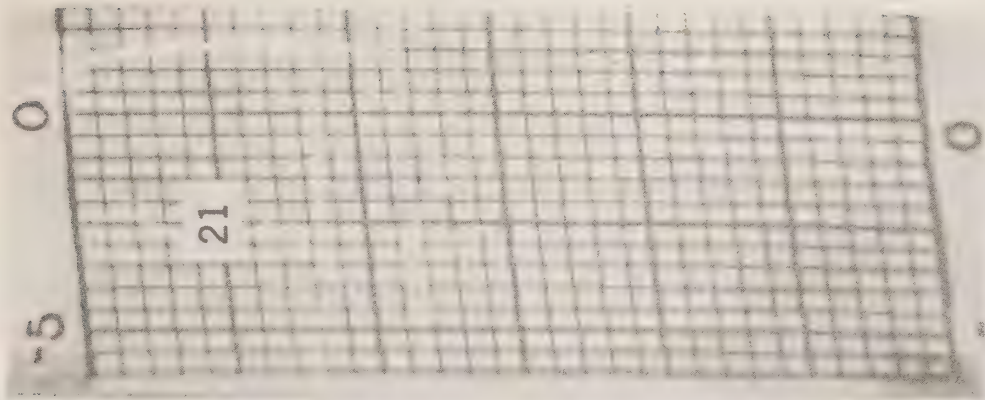


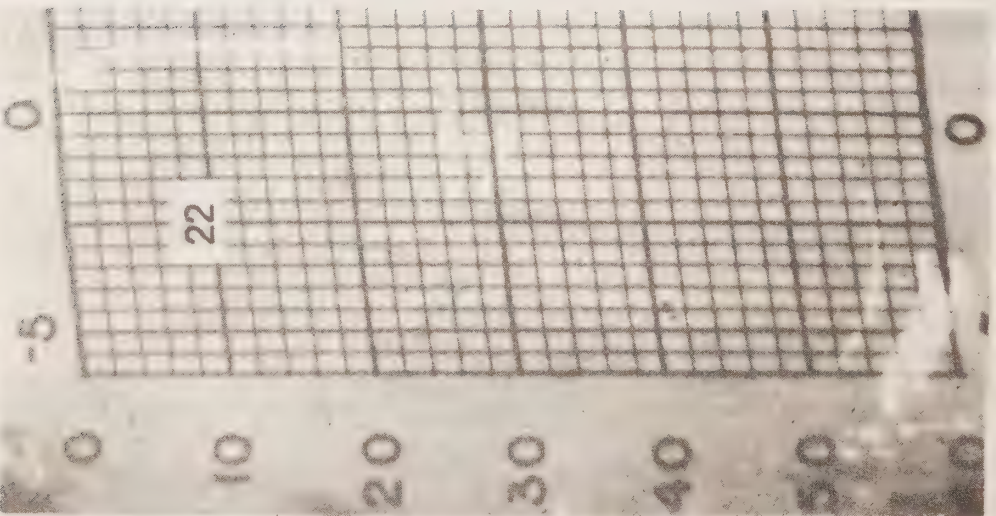
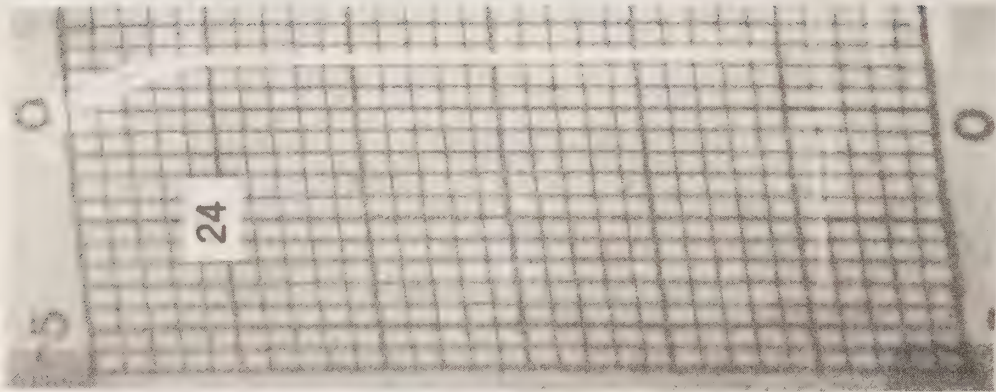




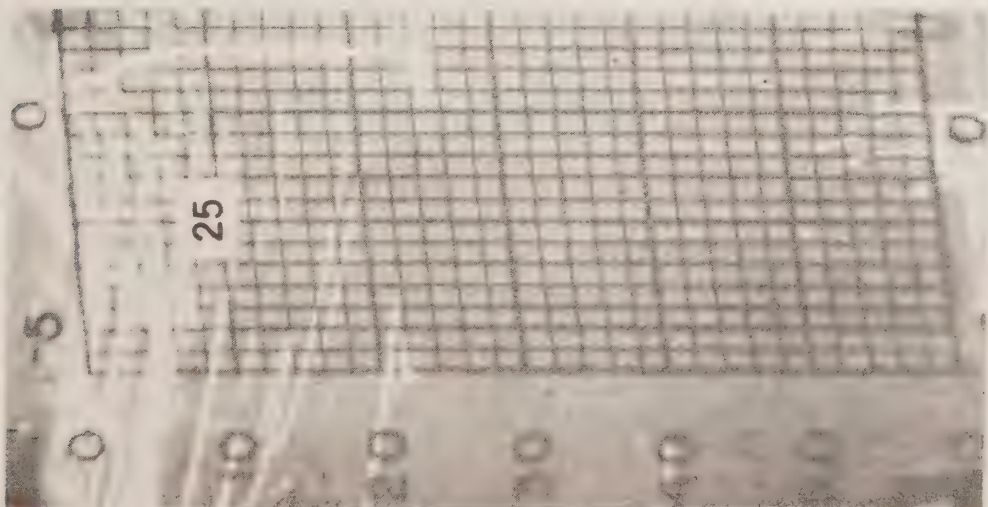
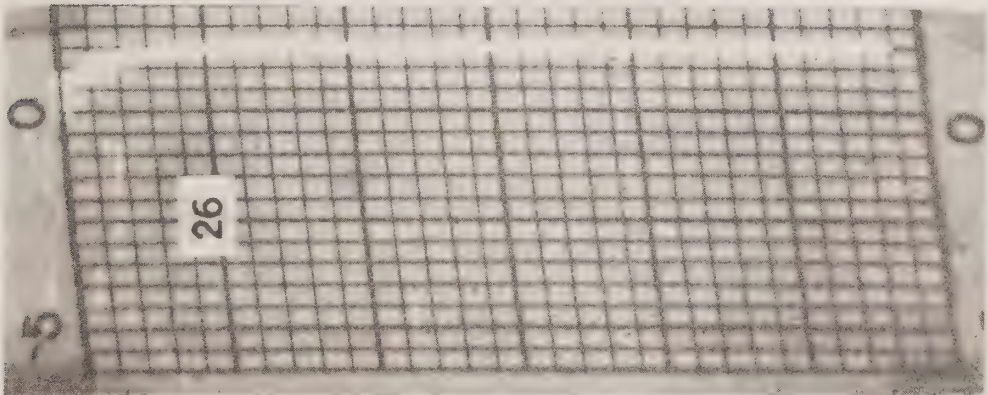
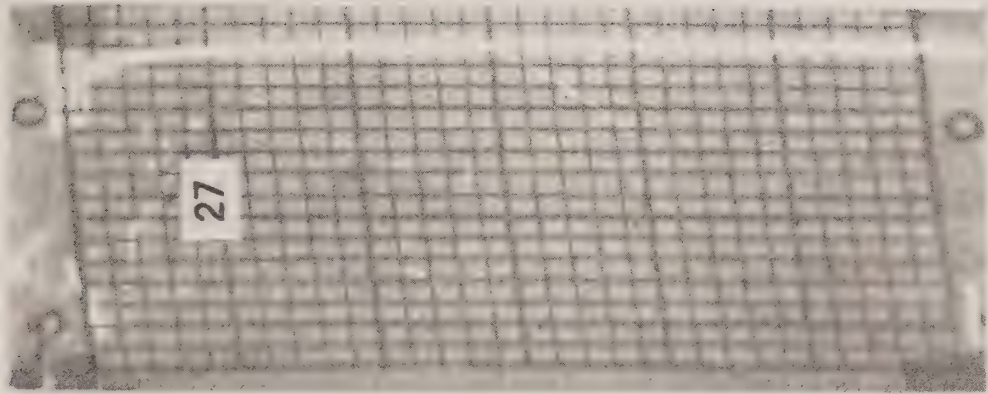


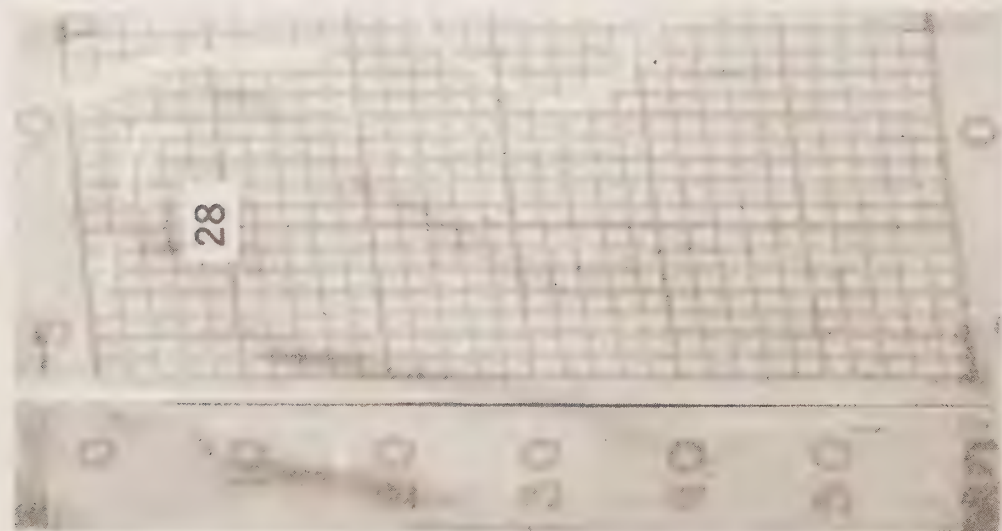
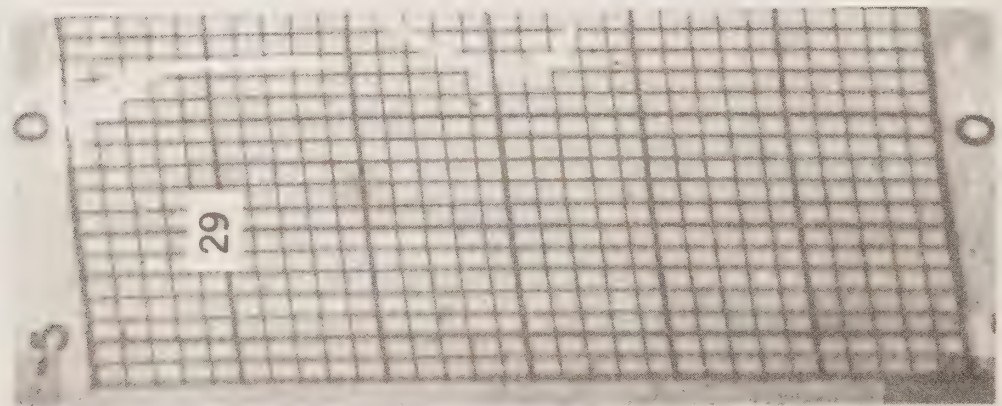
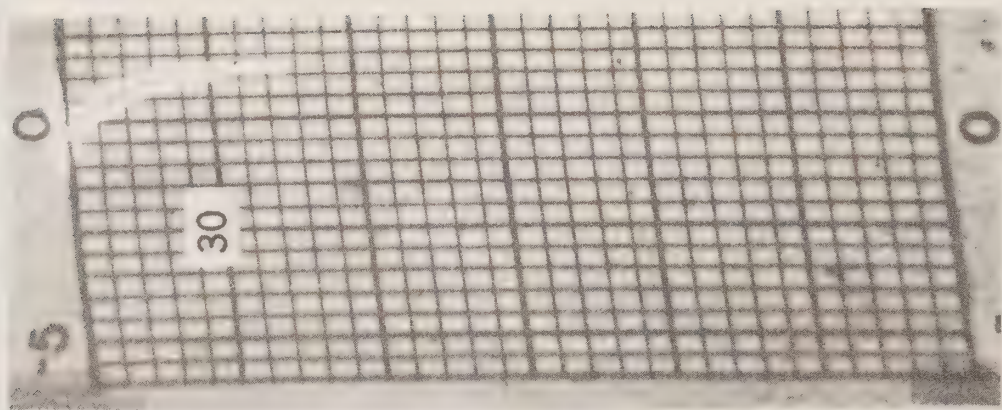




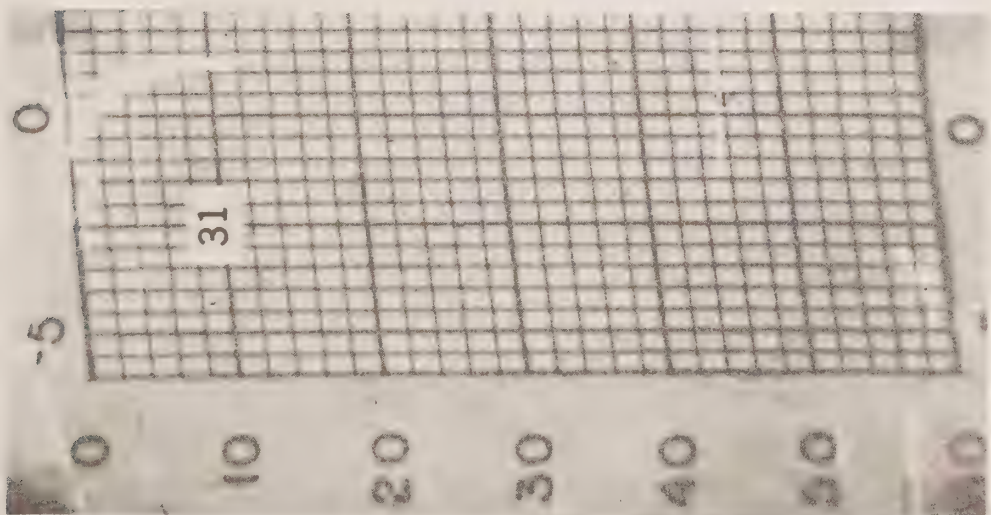
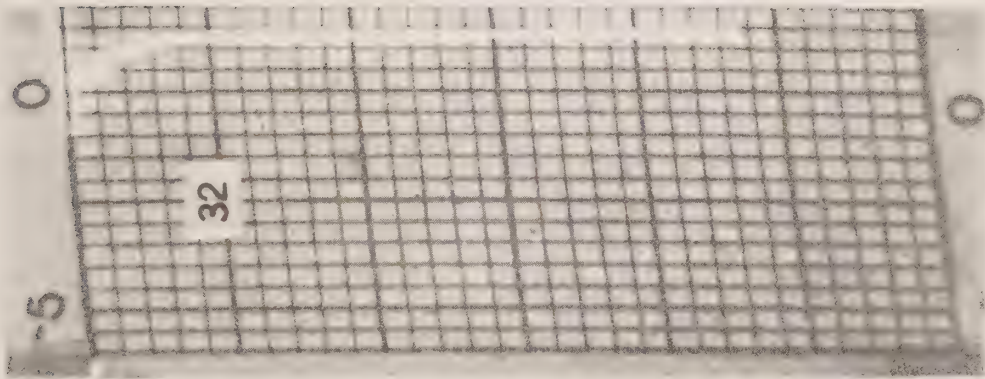
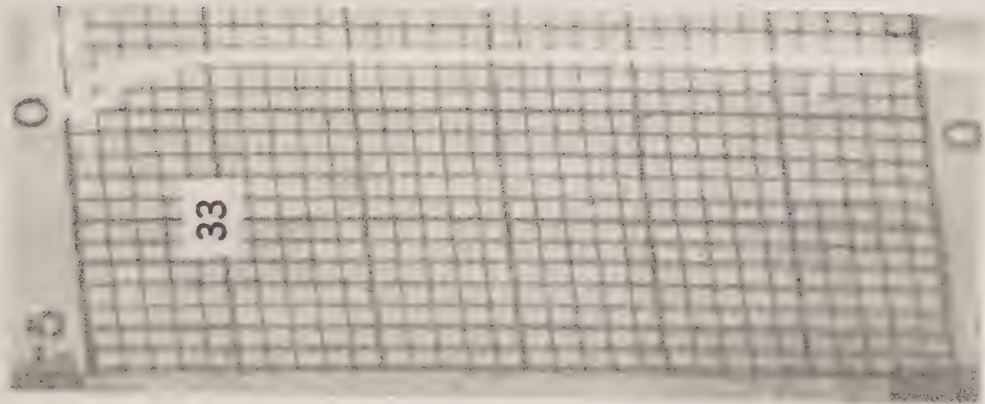


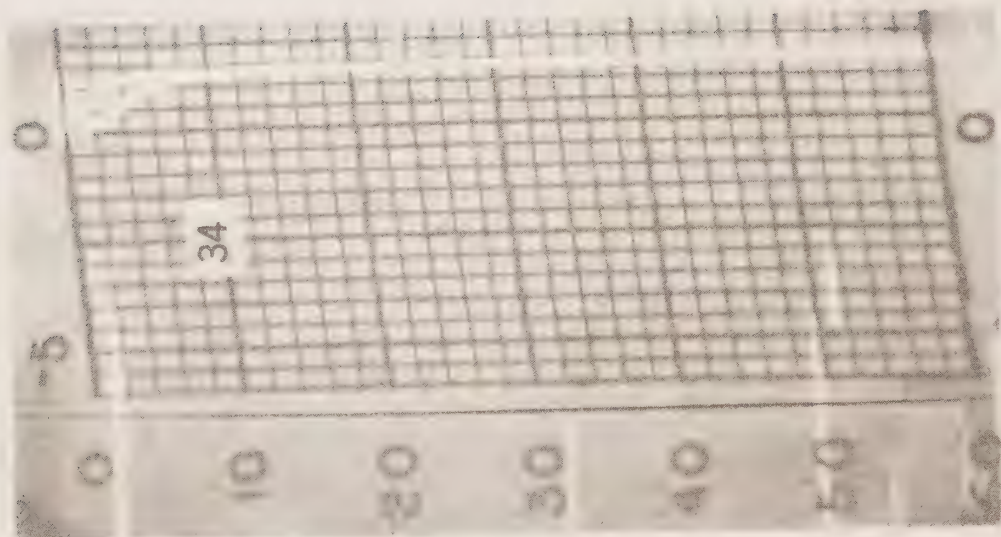
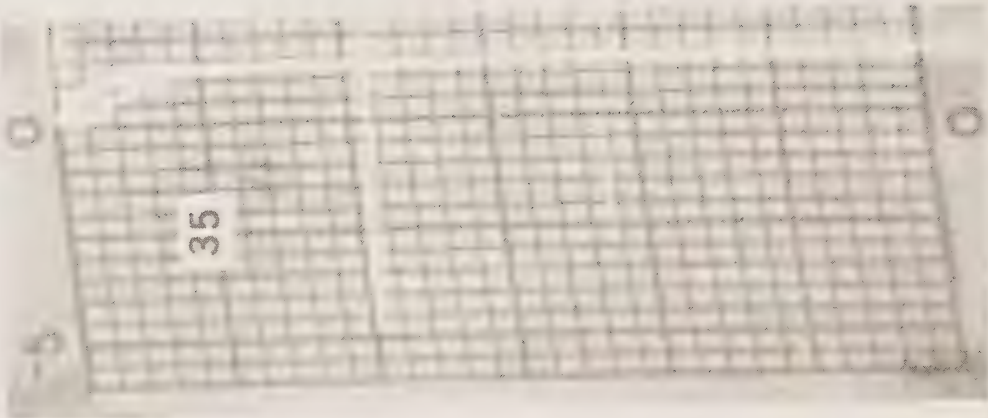
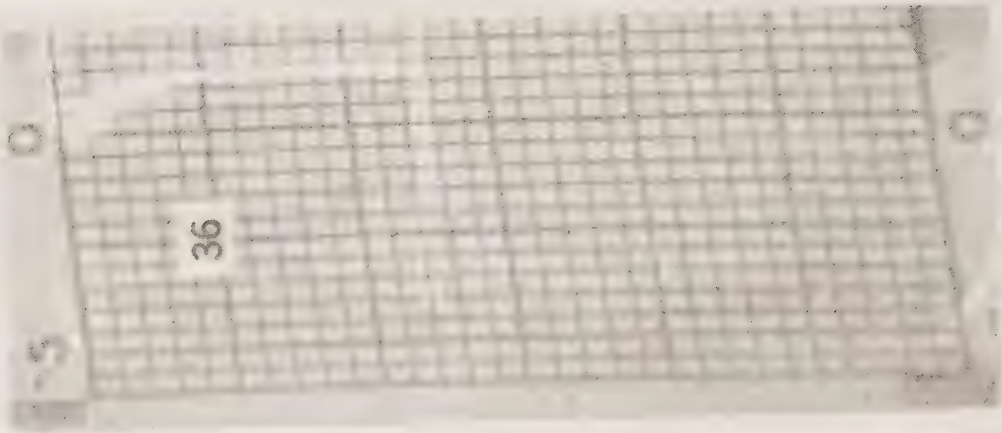




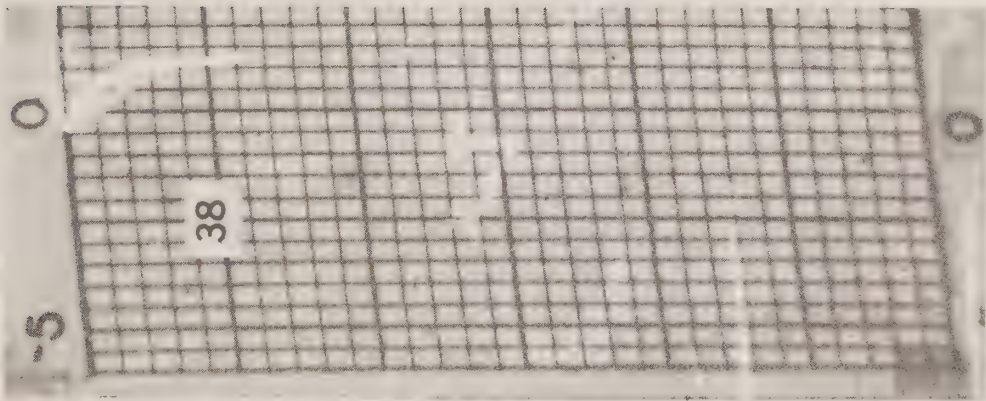
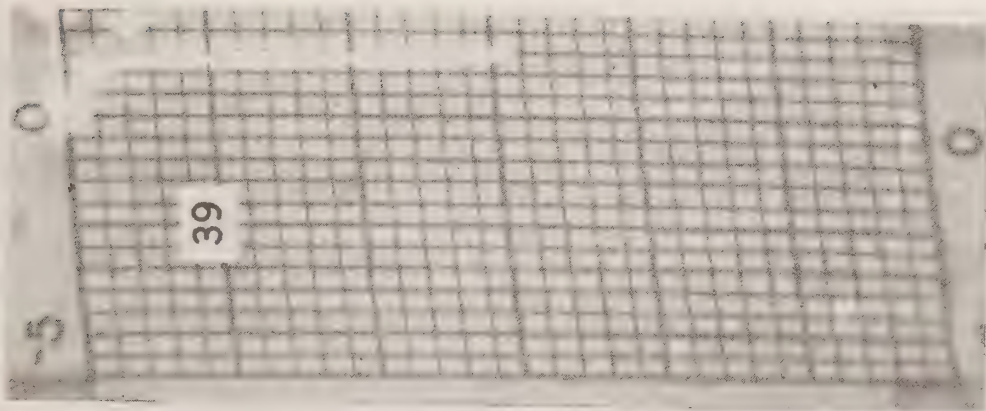


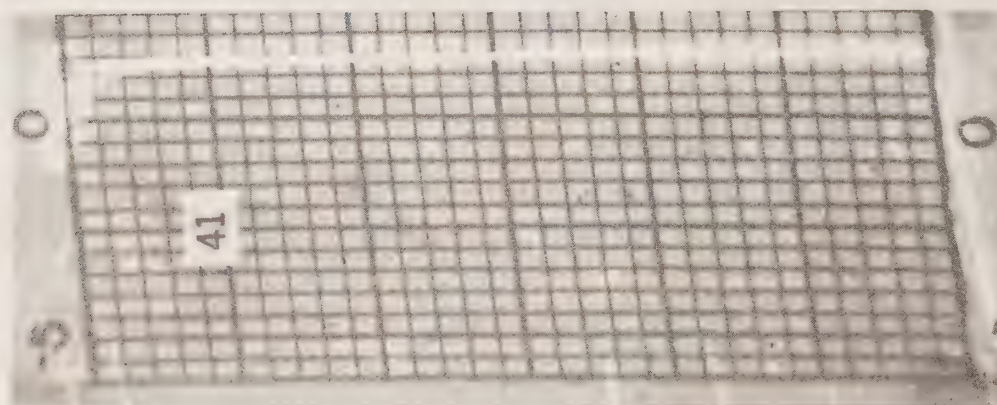
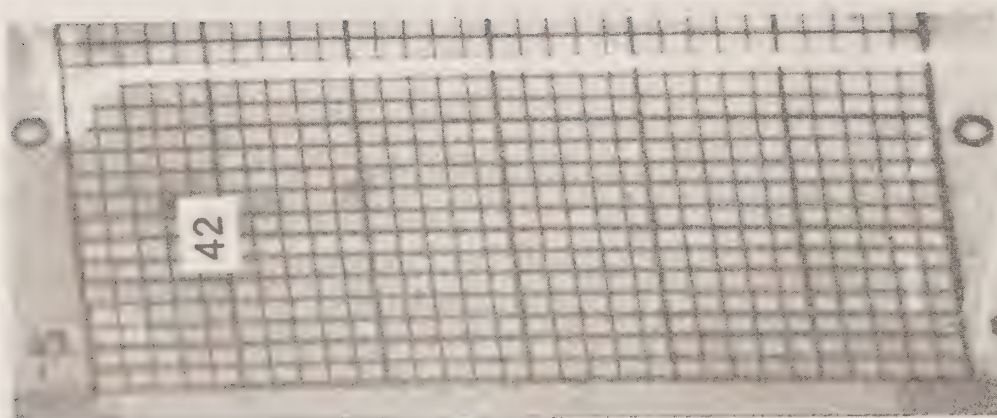


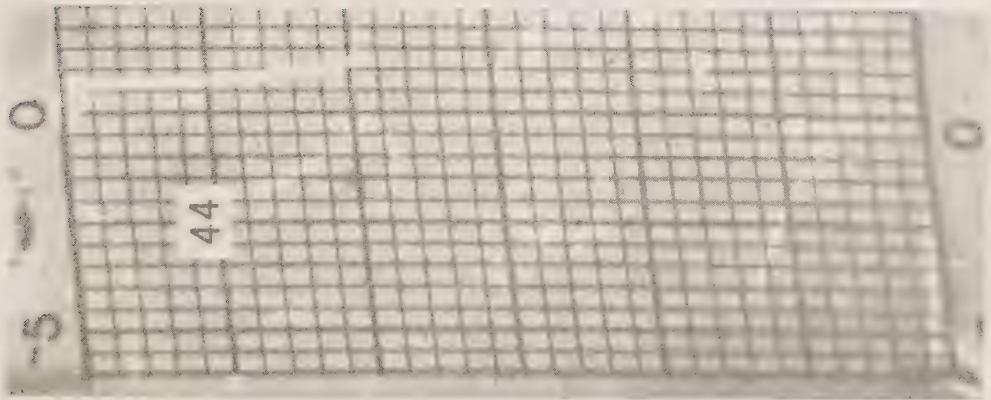
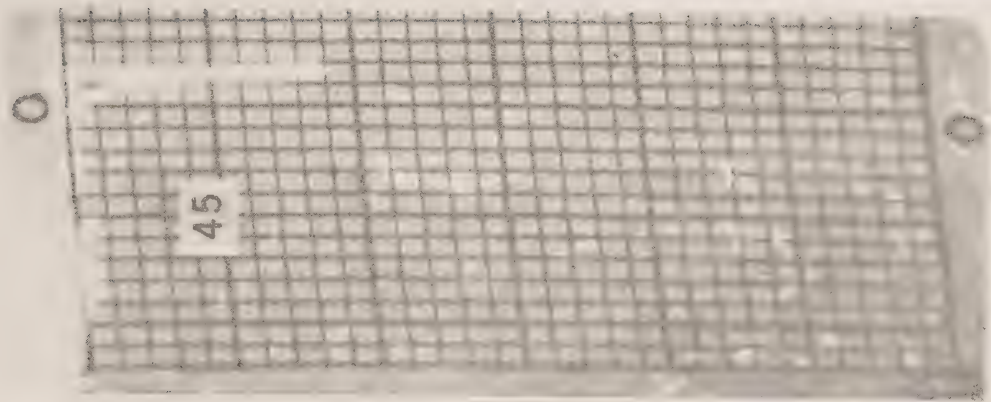






















STANWELL - FLETCHER LAKE

1966

BATHYTHERMOGRAMS

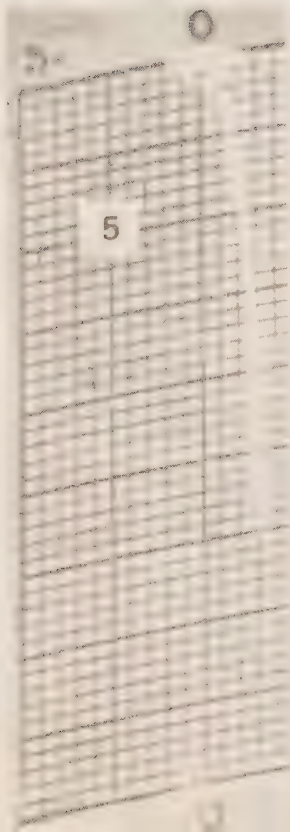
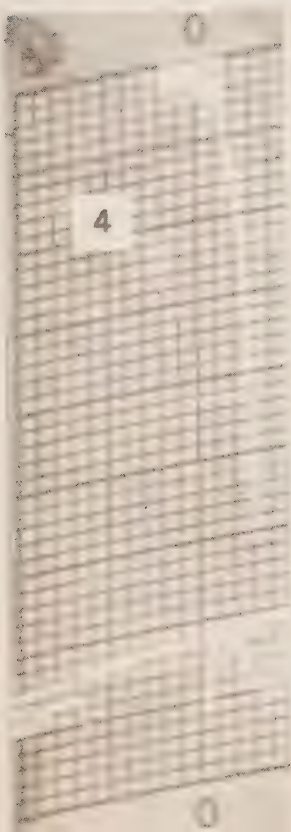




Table 2      A listing of the 1966 bathythermograph data obtained in Stanwell-Fletcher Lake indicating the location, day and month, lat and long, and the depth.

| <u>Location</u> | <u>Slide<br/>No.</u> | <u>Day<br/>Month</u> | <u>Lat<br/>N</u> | <u>Long<br/>W</u> | <u>Depth<br/>(m)</u> |
|-----------------|----------------------|----------------------|------------------|-------------------|----------------------|
| N-1             | 1                    | 5-V                  | 7249             | 9452              | 92                   |
| N-1             | 2                    | 5-V                  | do               | do                | 92                   |
| N-2             | 3                    | 22-V                 | 7250             | 9453              | 67                   |
| N-1             | 4                    | 27-V                 | 7249             | 9452              | 92                   |
| N-1             | 5                    | 27-V                 | do               | do                | 92                   |
| N-1             | 6                    | 24-V1                | do               | do                | 92                   |
| N-1             | 7                    | 24-V1                | do               | do                | 92                   |









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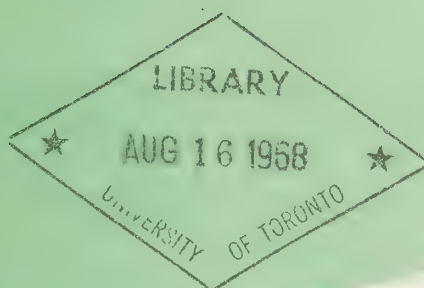
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| 2   | Sable Island to Grand Banks | 10-65-005              |
| 3   | Cabot Strait                | 10-66-004              |
| 4   | Baffin Bay, 1962            | CRN 362                |
| 5   | Ocean Weather Station "P"   | 02-66-004<br>02-66-006 |
| 6   | Ocean Weather Station "P"   | 02-66-007<br>02-66-008 |
| 7   | Baffin Bay, 1963            | 10-63-005              |
| 8   | Ocean Weather Station "P"   | 02-66-009<br>02-66-010 |







CANADA



# OCEAN WEATHER STATION 'P' NORTH PACIFIC OCEAN

January 16 to April 12, 1967

## No. 2

1968 Data Record Series

### Canadian Oceanographic Data Centre

Programmed by the  
Canadian Committee on Oceanography

1968

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# **OCEAN WEATHER STATION 'P'**

## **NORTH PACIFIC OCEAN**

**January 16 to April 12, 1967**

**CODC References: 02-67-001  
02-67-002**

**No. 2**

**1968 Data Record Series**

**Canadian Oceanographic Data Centre**  
**615 Booth St., Ottawa, Canada**

**Programmed by the Canadian Committee on Oceanography**





FISHERIES RESEARCH BOARD OF CANADA

Ocean Weather Station "P" North Pacific Ocean

|                            |                       |                        |
|----------------------------|-----------------------|------------------------|
| Ships:                     | CCGS "St. Catharines" | CCGS "Stonetown"       |
| Local cruise designations: | P-67-1                | Patrol No. 73          |
| Cruise periods:            | Jan. 16-March 1, 1967 | Feb. 25-April 12, 1967 |
| Scientist-in-Charge:       | D.G. Robertson        |                        |
| Observer:                  | K.A. Gantzer          |                        |

PACIFIC OCEANOGRAPHIC GROUP - Nanaimo, B.C.



## SECTION I

Description of data collection procedures







Figure 1.

The Canadian Weather Ship C.C.G.S. " St. Catharines ".

( D.O.T. Photo )

The oceanographic winch is located on the starboard side of the signal dock, just aft of the bridge wing.





Figure 2.

The Canadian Weather Ship C.C.G.S. "Stonetown".

( D.O.T. Photo )

Bathythermograph soundings boom can be seen below the bridge on the almost deck.





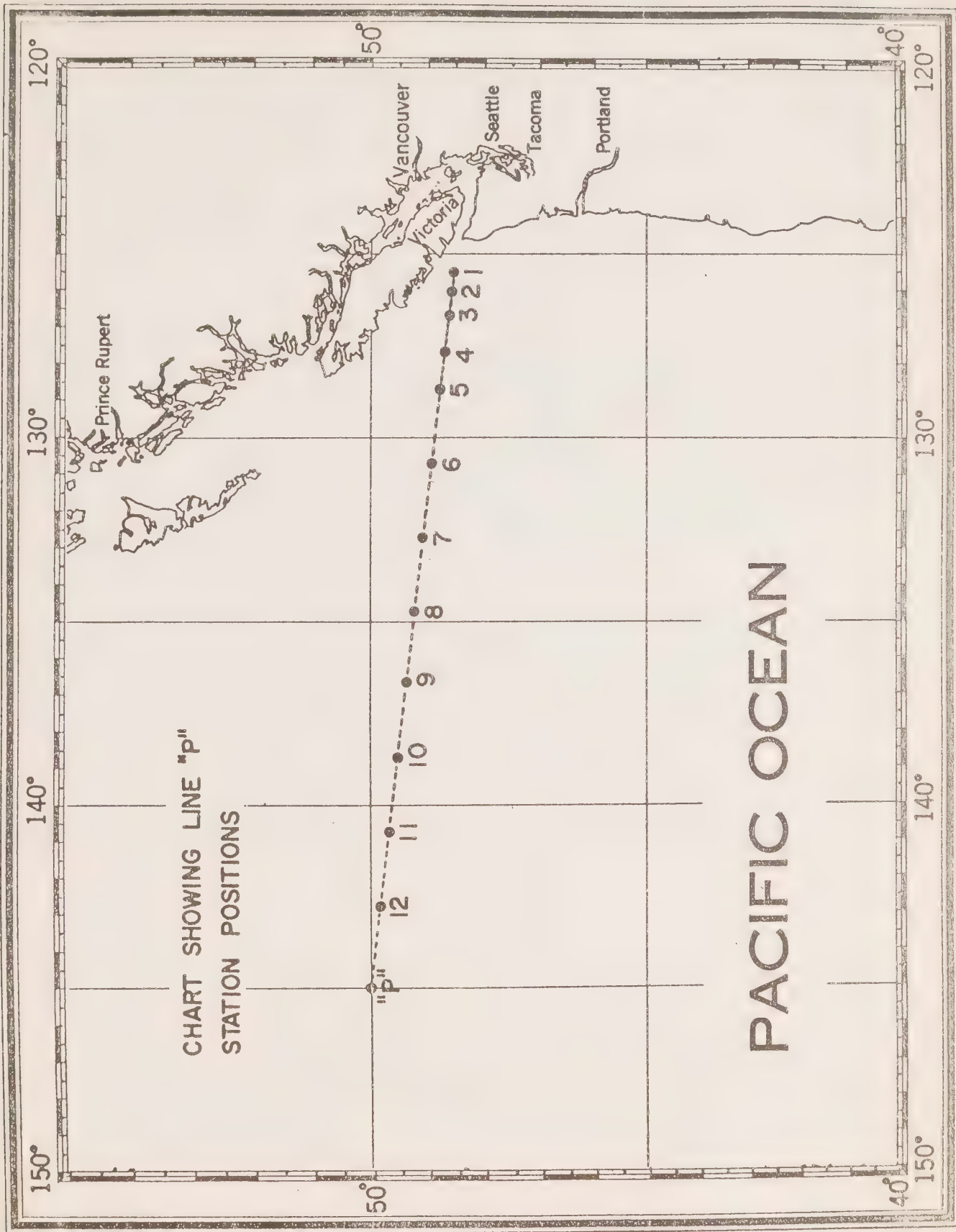


Figure 3.



## INTRODUCTION

Canadian operation of Ocean Weather Station "P" (latitude 50°00'N, longitude 145°00'W) was inaugurated in December 1950. The Station is manned by two vessels of the Canadian naval frigate class operated by the Marine Services Branch of the Department of Transport. They are the CCGS "St. Catharines" and the CCGS "Stonetown" (Fig. 1 and 2) (Atlantic Oceanographic Group, MS, 1961). Each ship remains on Station for a period of 6 weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch. The chief purpose of the Station is to operate as a meteorological station for surface and upper-air observations, and as an air-sea rescue station.

The CCGS "St. Catharines" is equipped with deck and laboratory facilities required to make bathythermograph and oceanographic observations. Oceanographers from the Pacific Oceanographic Group accompany the ship on each patrol. The CCGS "Stonetown" is equipped with bathythermograph equipment only. The BT observations on both ships are made by members of the ship's crew.

Bathythermograph observations have been made at Station "P" since July 1952. A program of oceanographic observations was commenced in August 1956, and it has been increased and altered to suit the requirements for new and additional information.



CRUISE LOG, CCGS "ST. CATHARINES", SURVEY P-67-1

January 15: departed from Esquimalt, B.C.; no BT observations nor stations observed enroute to Station "P".

January 22: commenced regular oceanographic station program; 9 oceanographic stations and 251 BT's were observed during the patrol.

February 26: relieved by CCGS "Stonetown" and proceeded on return journey to base; 3 Line "P" oceanographic stations and 18 BT's observed.

March 2: returned to Esquimalt.

OBSERVATIONAL PROCEDURES

During survey P-67-1, water samples and temperatures were obtained at depth with Nansen water sample bottles equipped with either Richter and Wiese or Yoshino reversing thermometers. Surface samples (0 m) were obtained in a one-gallon plastic bucket. The surface temperature was measured in this bucket with a thermometer graduated in 0.5 C intervals.

Station locations were determined by the officers of the watch, who also make the meteorological observations reported with the oceanographic data.

LABORATORY PROCEDURES

The salinity determinations of the oceanographic station samples from survey P-67-1, and of the daily surface samples taken in conjunction with the BT observations from both ships, were made with an inductive salinometer, Model 601 MK III, Auto-Lab Industries. Most of the oceanographic station samples were analysed on board "St. Catharines". The salinity data are the means of duplicate determinations, and are considered to have an accuracy at the 35‰ salinity level of  $\pm 0.003\%$  (Brown and Hamon, 1961).

The salinity values for station nos. 010, 011 and 012 are reported only to the second decimal place, with an assumed accuracy of  $\pm 0.02\%$  because of operation difficulties with the salinometer.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Strickland and Parsons, 1965). The data are the means of duplicate determinations.

### BATHYTHERMOGRAPH OBSERVATIONS

BT observations to 275 m depth were made from "St. Catharines" every 3 hours during the patrol, and also on the return journey to the base. The "Stonetown" made 5 BT observations during the journey to Station "P" and 19 on the return trip, and took observations to 275 m every 3 hours whilst on station.

The bathythermograms have been prepared by the Canadian Oceanographic Data Centre in their BT - aperture card format (Sauer, 1964), and copies are available from the Centre. The bathythermograms presented in Section IV of this data record were reproduced from the BT -aperture cards. The consecutive number entered below each bathythermogram refers to an entry in Table 1 (P-67-1) or Table 2 (Patrol No. 72), which lists the information concerning time/date, position, and associated meteorological information.

### PERSONNEL

The scientist-in-charge of the Station "P" program was Mr. D.G. Robertson. The oceanographer on board "St. Catharines" during survey P-67-1 was Mr. K.A. Gantzer. The master of the ship was Captain A.A.R. Dykes. The ships' crews made the BT observations.



## SECTION II

Description of the machine-generated data record





## INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch-cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. When interpolations are carried out, additional derived values are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an "**estimate of precision**" for each observed variable selected for interpolation at standard oceanographic depths. The precision depends on the instrument and/or technique used to determine the variable. A standard precision stated as a **standard deviation** ( $\sigma$ ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under "GENERAL INFORMATION" in section III of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e.,  $1\sigma = A$ ,  $2\sigma = B$ , etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an "**interpolation error estimate**" derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of the interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable ( $T$ ,  $S$ ,  $O_2$ ) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the "**measurement error estimate**" comprises the "**combined measurement and interpolation error estimate**". It is expressed as a multiple of the standard deviation of measurement ( $\sigma$ ) under normal routine field conditions by:

CANADIAN OCEANOGRAPHIC DATA CENTRE

|  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
|--|--|-------------------|--|-----------------|--|--|--|-------------------|--|------------------------|--|-----------------------|--|------------------------|--|------------------------|--|--------------------------|--|---------------------|--|---------------|--|----------------------------|--|-------------------|--|-------------|--|--|--|
| IDENT. CODE  |  | LATITUDE (N=+)    |  | LONGITUDE (W=+) |  | DATE                                   |  | TIME              |  | DEPTH                  |  | VESSEL                |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
| COUNTRY INST.  |  | DEG. MIN. 1/10    |  | DEG. MIN. 1/10  |  | YEAR MONTH DAY                         |  | HOURS G.M.T. 1/10 |  | TO BOTTOM              |  | ENTERED BY CHECKED BY |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
| 1 8  |  |                   |  |                 |  | 19 20 21 22 23 24 25 26 27 28 29 30 31 |  | 34 35             |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
| 10 WATER   |  | 11 WAVES I        |  | 12 WAVES II     |  | 13 WIND                                |  | 14 BAROMETER      |  | 15 AIR TEMP.           |  | 16 WET BULB           |  | 17 W.W. CODE           |  | 18 CLOUD               |  | 19 VIS.                  |  | 20 HOURS AFTER H.W. |  | 21 UNASSIGNED |  | 22 CRUISE REFERENCE NUMBER |  | 23 CONSEC. NUMBER |  | 24 CARD NO. |  |  |  |
| COLOUR TRANS.  |  | DW DP PW HW       |  | DW DP PW HW     |  | DIR. 1/10                              |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 1           |  |  |  |
| 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
| 6 TIME   |  | 7 DEPTH OF SAMPLE |  | 8 TEMPERATURE   |  | 9 SALINITY                             |  | 10 OXYGEN         |  | 13 PO <sub>4</sub> - P |  | 14 TOTAL - P          |  | 15 NO <sub>2</sub> - N |  | 16 NO <sub>3</sub> - N |  | 17 SiO <sub>3</sub> - Si |  | 18 P.H.             |  |               |  |                            |  |                   |  |             |  |  |  |
| HOURS G.M.T. 1/10  |  | e                 |  | e               |  | d/e                                    |  | e                 |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
| 1  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 2  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 3  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 4  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 5  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 6  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 7  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 8  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 9  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 10   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 11   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 12   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 13   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 14   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 15   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 16   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 17   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 18   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 19   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| 20   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  | 3           |  |  |  |
| OBSERVED CARD  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
| * COLUMN 1 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
| 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72                         |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |
| 80   |  |                   |  |                 |  |  |  |                   |  |                        |  |                       |  |                        |  |                        |  |                          |  |                     |  |               |  |                            |  |                   |  |             |  |  |  |

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left( \frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

$\sigma$  = Standard deviation of the combined error estimates at standard oceanographic depth,

$\Delta V_i$  = the interpolation error estimate of variable "V" at standard oceanographic depth =  $^{1/3} (V_{i_1} - V_{i_2})$

$\gamma$  = Interpolation polynomial coefficient.

$Z_j$  = Observed depth.

$Z_i$  = Standard oceanographic depth, such that:  $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction  $\frac{\sigma_i}{\sigma}$ , if  $\geq 2$ , is reported in this Data Record following the interpolated variable. It represents the combined measurement and interpolation error estimate. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the interpolation error estimate is given only when  $\frac{\sigma_i}{\sigma} \geq 2$  (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

## EXPLANATION OF DATA RECORD HEADINGS

## MASTER HEADINGS

|              |           |               |              |              |          |
|--------------|-----------|---------------|--------------|--------------|----------|
| (1) C-REF-NO | (6) YR    | (11) DEPTH    | (16) WAVES 1 | (21) AIR T   | (26) VIS |
| (2) CONS. NO | (7) MONTH | (12) MXSAMPD  | (17) WAVES 2 | (22) WET B   | (27) STN |
| (3) LAT      | (8) DAY   | (13) NO. DPTH | (18) WND-DIR | (23) ww-CODE |          |
| (4) LON      | (9) HR    | (14) W-COLOR  | (19) WND-FCE | (24) CLD-TPE |          |
| (5) MARSD SQ | (10) C/I  | (15) W-TRNSP  | (20) BARO    | (25) CLD-AMT | (28) HW  |

- (1) CRUISE REFERENCE NUMBER: Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the CRN was a number designated by CODC.
- (2) CONSECUTIVE NUMBER: Indicates the chronological order in which the stations were occupied.
- (3) LATITUDE: Indicate the position of the platform at the time of observation.
- (4) LONGITUDE:
- (5) MARSDEN SQUARE: Designates the geographic area code of the observation (see Marsden square chart).
- (6) YEAR:
- (7) MONTH:
- (8) DAY:
- (9) HOUR: The time (Greenwich Mean Time) at which the surface environmental data were recorded. It is reported to tenths of hours (Table 1).  
If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.
- (10) COUNTRY/INSTITUTE: The International Geophysical Year (IGY) Country Code/Institute Code - see Table 11.
- (11) DEPTH: The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section III. Charted depths are preceded by the letter "C".
- (12) MAXIMUM SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).  
00 m - 50 m = 00  
51 m - 150 m = 01  
151 m - 250 m = 02  
etc.



- (13) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch-cards).
- (14) WATER COLOUR: A code based on the percentage of yellow (see table 2 and Note under FIELD "15" below).
- (15) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section III of the data record will state which method was used.
- (16) WAVES 1  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the **wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (17) WAVES 2  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the predominant **non-wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (18) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing (wind direction 990 means:—wind variable or direction unknown).
- (19) WIND FORCE  
(WND-FCE): Beaufort notation (See Table 6).
- WIND SPEED  
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section III.
- (20) BAROMETER: The barometric pressure reported in millibars; the "GENERAL INFORMATION" chapter in Section III of the data record will state the type of instrument used.
- (21) AIR TEMPERATURE: In degrees Celsius.
- (22) WET BULB: In degrees Celsius.
- (23) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (24) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (25) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (26) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (27) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (28) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.



## OBSERVED DATA HEADINGS

|           |            |          |             |             |              |
|-----------|------------|----------|-------------|-------------|--------------|
| (1) GMT   | (2) DEPTH  | (3) TEMP | (4) SAL     | (5) OXYGEN  | (6) SGMT     |
| (7) SOUND | (8) $PO_4$ | (9) -P-  | (10) $NO_2$ | (11) $NO_3$ | (12) $SiO_2$ |
|           |            |          |             |             | (13) pH.     |

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

(1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.

When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.

(2) DEPTH: The depth in metres at the reversal time of deepest cast.

(3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of section III. An alphabetical character following the temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.

(4) SALINITY: Salinity as defined by:  $S = 0.03 + 1.805 C1\%$ , reported in:  
 a. 1/100 parts per 1000, or  
 b. 1/1000 parts per 1000.

In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3).

In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.

(5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).

(6) SIGMA-T: The specific gravity anomaly as defined by:  $(\text{Specific gravity} - 1) \times 10^3$  (e.g.,  $\sigma_t$  reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).

(7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

|                       |   |
|-----------------------|---|
| (8) PO <sub>4</sub>   | Phosphate-Phosphorus reported to hundredths of microgram-atoms per litre.                               |
| (9) -P-               | Total Phosphorus reported to hundredths of microgram-atoms per litre.                                   |
| (10) NO <sub>2</sub>  | Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre — No dissolved nitrogen included — |
| (11) NO <sub>3</sub>  | Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.                                       |
| (12) SiO <sub>2</sub> | Silicate-Silicon reported in whole microgram-atoms per litre.   |
| (13) pH               | The pH value.   |

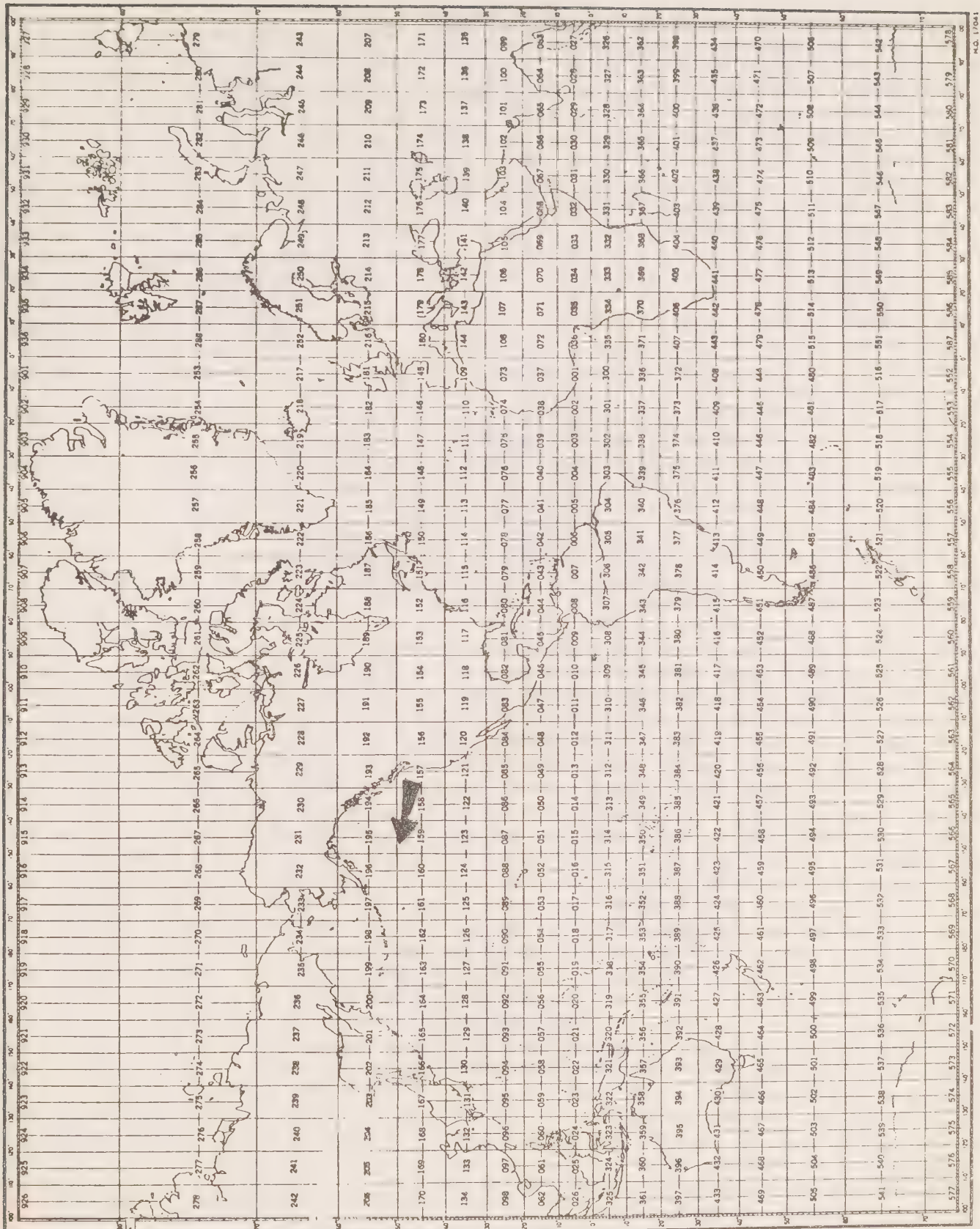
NOTE: "TRC" (trace) is reported when a chemical entry has a value less than the standard deviation of measurement for that particular variable.

#### INTERPOLATED DATA HEADINGS

|             |            |          |            |          |           |
|-------------|------------|----------|------------|----------|-----------|
| (1) DEPTH   | (2) TEMP   | (3) SAL  | (4) OXYGEN | (5) SGMT | (6) SOUND |
| (7) DELTA-D | (8) POT-EN | (9) SVA. |            |          |           |

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY:
- A. The reported salinity values are measured to three decimal places.
    - (i) the interpolation error estimate is less than twice the standard deviation of measurement
      - the interpolated value is reported to three decimal places (e.g., 30.139).
    - (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
      - the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23 C).
  - B. The reported salinity values are measured to two decimal places and followed by the measurement error estimate.
    - the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59 B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

- (5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.
- (6) SOUND VELOCITY: Computed from temperature, salinity and total pressure values at standard oceanographic depth, using Wilson's formula (1960).
- (7) DELTA-D: The geo-potential anomaly as defined by:
- $$\Delta D = \int_0^p \delta \rho dp$$
- $\Delta D$  is expressed in dynamic metres ( $10^5$  ergs/gram) and recorded to three decimal places (e.g., 2.345 dyn. metres).
- (8) POTENTIAL ENERGY ANOMALY: The Potential energy anomaly  $\chi$  as defined by:
- $$\chi = \frac{1}{g} \int_0^p \rho \delta dp = \int_0^z \rho \delta dz$$
- $\chi$  is expressed in units of  $10^8$  ergs/cm<sup>2</sup> and recorded to two decimal places (e.g., 116.44).
- (9) SPECIFIC VOLUME ANOMALY: The specific volume anomaly as defined by:
- $$\delta = \alpha - \alpha_{35.0.P}$$
- $\delta$  is expressed in ml/gr, and conventionally reported as  $10^5 \delta$ , to one decimal place (i.e.,  $\delta$  reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).



MARS DEN SQUARE CHART



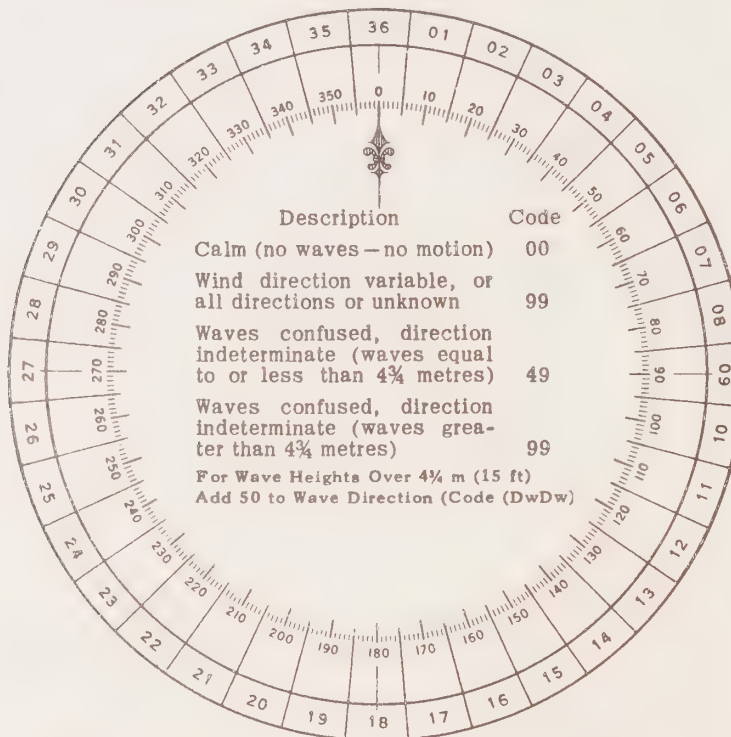
**Table 1**  
**CONVERSION**  
**MINUTES TO  $\frac{1}{10}$  HRS.**

| Minutes | Tenths Hrs.  |
|---------|--------------|
| 00-03   | 0            |
| 04-08   | 1            |
| 09-15   | 2            |
| 16-20   | 3            |
| 21-27   | 4            |
| 28-32   | 5            |
| 33-39   | 6            |
| 40-44   | 7            |
| 45-51   | 8            |
| 52-56   | 9            |
| 57-59   | 0 (next HR.) |

**Table 2**  
**WATER COLOR CODE**  
**Based on Percentage Yellow**

| Code: | Description     |
|-------|-----------------|
| 00    | Deep Blue       |
| 10    | Blue            |
| 20    | Greenish Blue   |
| 30    | Bluish Green    |
| 40    | Green           |
| 50    | Light Green     |
| 60    | Yellowish Green |
| 70    | Yellow Green    |
| 80    | Green Yellow    |
| 90    | Greenish Yellow |
| 99    | Yellow          |

**Table 3. DIRECTION CODE (dd)**



**NOTE:**

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.



**Table 4. PERIOD OF THE WAVES (Pw)**  
(Measure to the Nearest Second)

| Code: | Period in Seconds: | Code: | Period in Seconds:             |
|-------|--------------------|-------|--------------------------------|
| 2     | 5 sec. or less     | 8     | 16 or 17 sec.                  |
| 3     | 6 or 7 sec.        | 9     | 18 or 19 sec.                  |
| 4     | 8 or 9 sec.        | 0     | 20 or 21 sec.                  |
| 5     | 10 or 11 sec.      | 1     | Over 21 sec.                   |
| 6     | 12 or 13 sec.      | X     | Calm, or period not determined |
| 7     | 14 or 15 sec.      |       |                                |

**Table 5. HEIGHT OF THE WAVES (Hw)**

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft); 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft); 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.

| Code |                       |                          | Code                    |
|------|-----------------------|--------------------------|-------------------------|
| 0    | Less than ¼ m (1 ft)  | Add<br>50<br>to<br>Dw Dw | 0 5 m (16 ft)           |
| 1    | ½ m ( 1½ ft)          |                          | 1 5½ m (17½ ft)         |
| 2    | 1 m ( 3 ft)           |                          | 2 6 m (19 ft)           |
| 3    | 1½ m ( 5 ft)          |                          | 3 6½ m (21 ft)          |
| 4    | 2 m ( 6½ ft)          |                          | 4 7 m (22½ ft)          |
| 5    | 2½ m ( 8 ft)          |                          | 5 7½ m (24 ft)          |
| 6    | 3 m ( 9½ ft)          |                          | 6 8 m (25½ ft)          |
| 7    | 3½ m (11 ft)          |                          | 7 8½ m (27 ft)          |
| 8    | 4 m (13 ft)           |                          | 8 9 m (29 ft)           |
| 9    | 4½ m (14 ft)          |                          | 9 9½ m (30½ ft) or more |
| x    | Height not determined |                          |                         |

Add  
50  
to  
Dw Dw

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

| Code | Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully   | Description     |
|------|---|-----------------|
| 00   | Sea like a mirror   | Calm            |
| 01   | Ripples with the appearance of scales are formed, but without foam crests.  | Light Air       |
| 02   | Small wavelets; crests have a glassy appearance and do not break.   | Light Breeze    |
| 03   | Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.   | Gentle Breeze   |
| 04   | Small waves, becoming longer; fairly frequent white horses.   | Moderate breeze |
| 05   | Moderate waves; many white horses are formed (chance of some spray)   | Fresh Breeze    |
| 06   | Large waves; white foam crests everywhere (probably some spray)   | Strong Breeze   |
| 07   | Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.  | Near Gale       |
| 08   | Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.   | Gale            |
| 09   | High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.  | Strong Gale     |
| 10   | Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.          | Storm           |
| 11   | Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected. | Violent Storm   |
| 12   | Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.  | Hurricane       |

Table 7. PRESENT WEATHER

W.W. CODE

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

| Code figure<br>ww                   |    |   |  |
|-------------------------------------|----|---|--|
| No meteors<br>except<br>photometers | 00 | Cloud development not observed or not observable  | characteristic<br>change of the<br>state of sky<br>during the<br>past hour   |
|                                     | 01 | Clouds generally dissolving or becoming less developed  |  |
|                                     | 02 | State of sky on the whole unchanged   |  |
| Haze, dust, sand or smoke           | 03 | Clouds generally forming or developing  |  |
|                                     | 04 | Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes   |  |
|                                     | 05 | Haze  |  |
|                                     | 06 | Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation  |  |
|                                     | 07 | Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen       |  |
|                                     | 08 | Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm                |  |
|                                     | 09 | Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour   |  |
|                                     | 10 | Mist  |  |
|                                     | 11 | Patches of  | shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 metres on land or 10 metres at sea                                  |
|                                     | 12 | More of less continuous   |  |
|                                     | 13 | Lightning visible, no thunder heard   |  |
|                                     | 14 | Precipitation within sight, not reaching the ground or the surface of the sea   |  |
|                                     | 15 | Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station                                 |  |
|                                     | 16 | Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station  |  |
|                                     | 17 | Thunderstorm, but no precepitation at the time of observation   |  |
|                                     | 18 | Squalls   | } at or within sight of the station during the preceding hour or at the time of observation  |
|                                     | 19 | Funnel clouds   |  |
| ww = 20 - 29                        |    |   |  |
|                                     | 20 | Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation   | } not falling as shower(s)   |
|                                     | 21 | Drizzle (not freezing) or snow grains   |  |
|                                     | 22 | Rain (not freezing)   |  |
|                                     | 23 | Snow  |  |
|                                     | 24 | Rain and snow or ice pellets, type (a)  |  |
|                                     | 25 | Freezing drizzle or freezing rain   |  |
|                                     | 26 | Shower(s) of rain   |  |
|                                     | 27 | Shower(s) of snow, or of rain and snow  |  |
|                                     | 28 | Shower(s) of hail, or of rain and hail  |  |
|                                     | 29 | Fog or ice fog  |  |
| ww = 30 - 39                        |    |   |  |
|                                     | 30 | Thunderstorm (with or without precipitation)  |  |
|                                     | 31 | Duststorm, sandstorm, drifting or blowing snow  |  |
|                                     | 32 | Slight or moderate duststorm or sandstorm   | } - has decreased during the preceding hour<br>- no appreciable change during the preceding hour<br>- has begun or has increased during the preceding hour |
|                                     | 33 | Severe duststorm or sandstorm   |  |
|                                     | 34 |   | } - has decreased during the preceding hour<br>- no appreciable change during the preceding hour<br>- has begun or has increased during the preceding hour |
|                                     | 35 |   |  |
|                                     | 36 | Slight or moderate blowing snow   | } generally low (below eye level)  |
|                                     | 37 | Heavy drifting snow   |  |
|                                     | 38 | Slight or moderate blowing snow   | } generally high (above eye level)   |
|                                     | 39 | Heavy blowing snow  |  |
| ww = 40 - 49                        |    |   |  |
|                                     | 40 | Fog or ice fog at the time of observation   |  |
|                                     | 41 | Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer |  |
|                                     | 42 | Fog or ice fog in patches   |  |
|                                     | 43 | Fog or ice fog, sky visible   | } has become thinner during the preceding hour   |
|                                     | 44 | Fog or ice fog, sky invisible   |  |
|                                     | 45 | Fog or ice fog, sky visible   | } no appreciable change during the preceding hour  |
|                                     | 46 | Fog or ice fog, sky invisible   |  |
|                                     | 47 | Fog or ice fog, sky visible   | } has begun or has become thicker during the preceding hour  |
|                                     | 48 | Fog or ice fog, sky invisible   |  |
|                                     | 49 | Fog, depositing rime, sky visible   |  |
|                                     |    | Fog, depositing rime, sky invisible   |  |

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

## ww = 50 - 59 Drizzle

- |    |  |   |                                      |
|----|--|---|--------------------------------------|
| 50 | Drizzle, not freezing, intermittent          | { | slight at time of observation        |
| 51 | Drizzle, not freezing, continuous            |   |                                      |
| 52 | Drizzle, not freezing, intermittent          | { | moderate at time of observation      |
| 53 | Drizzle, not freezing, continuous            |   |                                      |
| 54 | Drizzle, not freezing, intermittent          | { | heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous            |   |                                      |
| 56 | Drizzle, freezing, slight                    |   |                                      |
| 57 | Drizzle, freezing, moderate or heavy (dense) |   |                                      |
| 58 | Drizzle and rain, slight                     |   |                                      |
| 59 | Drizzle and rain, moderate or heavy          |   |                                      |

## ww = 60 - 69 Rain

- |    |   |   |                                 |
|----|---|---|---------------------------------|
| 60 | Rain, not freezing, intermittent            | { | slight at time of observation   |
| 61 | Rain, not freezing, continuous              |   |                                 |
| 62 | Rain, not freezing, intermittent            | { | moderate at time of observation |
| 63 | Rain, not freezing, continuous              |   |                                 |
| 64 | Rain, not freezing, intermittent            | { | heavy at time of observation    |
| 65 | Rain, not freezing, continuous              |   |                                 |
| 66 | Rain, freezing, slight                      |   |                                 |
| 67 | Rain, freezing, moderate or heavy           |   |                                 |
| 68 | Rain or drizzle and snow, slight            |   |                                 |
| 69 | Rain or drizzle and snow, moderate or heavy |   |                                 |

## 70 - 79 Solid precipitation not in showers

- |    |   |   |                                 |
|----|---|---|---------------------------------|
| ww |   |   |                                 |
| 70 | Intermittent fall of snow flakes                      | { | slight at time of observation   |
| 71 | Continuous fall of snow flakes                        |   |                                 |
| 72 | Intermittent fall of snow flakes                      | { | moderate at time of observation |
| 73 | Continuous fall of snow flakes                        |   |                                 |
| 74 | Intermittent fall of snow flakes                      | { | heavy at time of observation    |
| 75 | Continuous fall of snow flakes                        |   |                                 |
| 76 | Ice prisms (with or without fog)                      |   |                                 |
| 77 | Snow grains (with or without fog)                     |   |                                 |
| 78 | Isolated starlike snow crystals (with or without fog) |   |                                 |
| 79 | Ice pellets, type (a)                                 |   |                                 |

## ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

- |    |  |   |   |
|----|--|---|---|
| 80 | Rain shower(s), slight   |   |   |
| 81 | Rain shower(s), moderate or heavy  |   |   |
| 82 | Rain shower(s), violent  |   |   |
| 83 | Shower(s) of rain and snow mixed, slight   |   |   |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy  |   |   |
| 85 | Snow shower(s), slight   |   |   |
| 86 | Snow shower(s), moderate or heavy  |   |   |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain                         | { | - slight  |
| 88 | or rain and snow mixed   |   |   |
| 89 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder      | { | - moderate or heavy   |
| 90 |  |   |   |
| 91 | Slight rain at time of observation   |   |   |
| 92 | Moderate or heavy rain at time of observation  |   |   |
| 93 | Slight snow, or rain and snow mixed or hail at time of observation                               |   |   |
| 94 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation                    |   |   |
| 95 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | { | thunderstorm during the preceding hour but not at time of observation |
| 96 | Thunderstorm, slight or moderate, with hail at time of observation                               |   |   |
| 97 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation              |   |   |
| 98 | Thunderstorm, combined with duststorm or sandstorm at time of observation                        | { | thunderstorm at time of observation                                   |
| 99 | Thunderstorm, heavy, with hail at time of observation  |   |   |

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

| Code | Cloud Type   | Code | Cloud Type             |
|------|--|------|------------------------|
| 0    | Cirrus ..... Ci  | 5    | Nimbostratus ..... Ns  |
| 1    | Cirrocumulus ..... Cc  | 6    | Stratocumulus ..... Sc |
| 2    | Cirrostratus ..... Cs  | 7    | Stratus ..... St       |
| 3    | Alto cumulus ..... Ac  | 8    | Cumulus ..... Cu       |
| 4    | Altostratus ..... As   | 9    | Cumulonimbus ..... Cb  |
| X    | Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena |      |                        |

Table 9. CLOUD AMOUNT CODE

| Code | Cloud Cover.                    | Code | Cloud Cover   |
|------|---------------------------------|------|---|
| 0    | 0                               | 6    | 6 oktas   |
| 1    | 1 okta or less,<br>but not zero | 7    | 7 oktas or more,<br>but not 8 oktas                     |
| 2    | 2 oktas                         | 8    | 8 oktas   |
| 3    | 3 oktas                         | 9    | Sky obscured, or<br>cloud amount cannot<br>be estimated |
| 4    | 4 oktas                         |      |   |
| 5    | 5 oktas                         |      |   |

Note: 1 okta =  $\frac{1}{8}$  of the sky covered

Table 10. VISIBILITY

| Code | Estimate of hor. Visibility                              |
|------|--|
| 0    | Less than 50 metres (less than 55 yards)                 |
| 1    | 50-200 metres (approx. 55-220 yards)                     |
| 2    | 200-500 metres (approx. 220-550 yards)                   |
| 3    | 500-1,000 metres (approx. 550 yards- $\frac{3}{4}$ n.m.) |
| 4    | 1-2 km (approx. $\frac{5}{8}$ -1 n.m.)                   |
| 5    | 2-4 km (approx. 1-2 n.m.)                                |
| 6    | 4-10 km (approx. 2-6 n.m.)                               |
| 7    | 10-20 km (approx. 6-12 n.m.)                             |
| 8    | 20-50 km (approx. 12-30 n.m.)                            |
| 9    | 50 km or more (30 n.m. or more)                          |

Note: n.m. = nautical mile



TABLE 11. INSTITUTE CODE

| Code | Institute   |
|------|---|
| 01   | Marine Ecology Laboratory, Bedford Institute                |
| 02   | Pacific Oceanographic Group                                 |
| 03   | Biological Station, St. Andrews, N.B.                       |
| 04   | Arctic Biological Station, Ste. Anne de Bellevue, P.Q.      |
| 05   | Biological Station, St. John's Nfld.                        |
| 06   | Station de Biologie Marine, Grande Riviere, P.Q.            |
| 07   | Marine Sciences Branch, Central Region                      |
| 08   | Defence Research Establishment, Atlantic                    |
| 09   | Defence Research Establishment, Pacific                     |
| 10   | Atlantic Oceanographic Laboratory, Bedford Institute        |
| 11   | Polar Continental Shelf Project                             |
| 12   | Great Lakes Institute                                       |
| 13   | Institute of Oceanography, University of British Columbia   |
| 14   | Institute of Oceanography, Dalhousie University             |
| 15   | Marine Sciences Branch, Pacific Region                      |
| 16   | Department of Transport                                     |
| 17   | Marine Sciences Centre, McGill University                   |
| 18   | Canadian Forces Maritime Command, East Coast                |
| 19   | Canadian Forces Maritime Command, West Coast                |
| 20   | Ontario Water Resources Commission                          |
| 21   | Dept. of National Health and Welfare                        |
| 22   | Inland Waters Branch, Dept. of Energy, Mines and Resources. |

### SECTION III

Serial oceanographic data



GENERAL INFORMATION

|   |  |
|---|--|
| <u>Institute:</u>                         | Pacific Oceanographic Group<br>Nanaimo, B.C. |
| <u>Observation platform:</u>              | CCGS "St. Catharines"                        |
| <u>Vessel's cruising speed:</u>           | 13 knots                                     |
| <u>Total number of stations occupied:</u> | 9  |
| <u>Anemometer height above sea level:</u> | 19 metres                                    |
| <u>Water transparency:</u>                | Secchi Disc                                  |
| <u>Barometer readings:</u>                | Aneroid Barometer (corrected)                |
| <u>Air temperature:</u>                   | Sling Psychrometer                           |
| <u>Wet Bulb temperature:</u>              | Sling Psychrometer                           |
| <u>Surface sea water temperature:</u>     | Bucket sample (deck thermometer)             |
| <u>Depth to bottom:</u>                   | U.S. Coast & Geodetic Survey Chart<br>8500   |

The following Standard Deviations were used to express both measurement and interpolation error estimates.

|             |       |
|-------------|-------|
| Temperature | 0.02  |
| Salinity    | 0.003 |
| Oxygen      | 0.03  |





|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 4220 | WAVES 1 3423 | AIR T 03.3 | VIS     |
| CONS. NO 001 | MONTH 1  | MXSAMPD 42   | WAVES 2 3422 | WET B 02.2 | STN 101 |
| LAT 50-020N  | DAY 22   | NO.DPTH 26   | WND-DIR 350  | WW-CODE 01 |         |
| LON 145-030W | HR 19.3  | W-COLOR 00   | WND-SPD 08   | CLD-TPE 2  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 16   | BARO 1007.0  | CLD-AMT 6  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 193 | 0000  | 056 B   | 32875 | 695    | 2595 | 14706 |
| 193 | 0009  | 0560    | 32594 | 699    | 2572 | 14704 |
| 193 | 0018  | 0563    | 32578 | 701    | 2571 | 14707 |
| 193 | 0026  | 0561    | 32581 | 702    | 2571 | 14707 |
| 193 | 0044  | 0561    | 32580 | 699    | 2571 | 14710 |
| 193 | 0066  | 0561    | 32581 | 703    | 2571 | 14714 |
| 193 | 0088  | 0562 B  | 32576 | 699    | 2571 | 14718 |
| 193 | 0110  | 0562    | 32588 | 698    | 2572 | 14721 |
| 193 | 0132  | 0446 B  | 33125 | 585    | 2627 | 14684 |
| 193 | 0154  | 0438    | 33444 | 479    | 2653 | 14689 |
| 193 | 0176  | 0422    | 33625 | 405    | 2669 | 14688 |
| 193 | 0220  | 0387    | 33724 | 313    | 2681 | 14682 |
| 193 | 0264  | 0363    | 33787 | 275    | 2688 | 14680 |
| 193 | 0357  | 0351    | 33929 | 154    | 2701 | 14692 |
| 193 | 0452  | 0351    | 34049 | 116    | 2710 | 14709 |
| 193 | 0551  | 0345    | 34128 | 091    | 2717 | 14724 |
| 205 | 0775  | 0317    | 34285 | 067    | 2732 | 14752 |
| 205 | 0971  | 0292 B  | 34372 | 066    | 2741 | 14775 |
| 205 | 1168  | 0266    | 34431 | 077    | 2748 | 14797 |
| 205 | 1467  | 0234 B  | 34495 | 076    | 2756 | 14835 |
| 205 | 1964  | 0195    | 34575 | 138    | 2766 | 14903 |
| 205 | 2462  | 0174    | 34614 | 198    | 2770 | 14980 |
| 205 | 2964  | 0160    | 34642 | 258    | 2774 | 15061 |
| 205 | 3473  | 0152    | 34668 | 299    | 2776 | 15146 |
| 205 | 3990  | 0152    | 34676 | 329    | 2777 | 15237 |
| 205 | 4198  | 0151 B  | 34664 | 329    | 2776 | 15273 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0560 B  | 32875  | 695    | 2595 | 14706 | 0000    | 00000  | 2067 |
| 0010  | 0560    | 3259 B | 699    | 2572 | 14704 | 0022    | 00001  | 2286 |
| 0020  | 0563    | 32578  | 701    | 2571 | 14707 | 0045    | 00005  | 2295 |
| 0030  | 0561    | 32581  | 701    | 2571 | 14708 | 0068    | 00011  | 2291 |
| 0050  | 0561    | 32580  | 700    | 2571 | 14711 | 0114    | 00030  | 2294 |
| 0075  | 0561    | 32578  | 702    | 2571 | 14715 | 0172    | 00067  | 2299 |
| 0100  | 0569 C  | 3255 G | 705 B  | 2568 | 14722 | 0230    | 00119  | 2332 |
| 0125  | 0483 D  | 3294 I | 627 B  | 2608 | 14696 | 0284    | 00181  | 1948 |
| 0150  | 0436 B  | 33399  | 497    | 2650 | 14687 | 0328    | 00242  | 1554 |
| 0175  | 0423    | 33619  | 408    | 2669 | 14688 | 0365    | 00304  | 1378 |

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0200  | 0402    | 3370 D | 347    | 2678 | 14685 | 0399    | 00368  | 1297 |
| 0225  | 0384    | 33732  | 308    | 2682 | 14682 | 0431    | 00438  | 1258 |
| 0250  | 0369    | 33769  | 285    | 2686 | 14680 | 0462    | 00514  | 1218 |
| 0300  | 0355    | 33843  | 227 B  | 2693 | 14683 | 0522    | 00683  | 1152 |
| 0400  | 0351    | 33988  | 131    | 2705 | 14700 | 0633    | 01079  | 1046 |
| 0500  | 0349    | 34091  | 102    | 2714 | 14717 | 0735    | 01549  | 0975 |
| 0600  | 0340    | 34166  | 083    | 2721 | 14731 | 0831    | 02087  | 0916 |
| 0700  | 0328    | 34238  | 071    | 2727 | 14743 | 0920    | 02685  | 0857 |
| 0800  | 0314    | 34298  | 066    | 2733 | 14755 | 1004    | 03332  | 0805 |
| 1000  | 0288 B  | 34382  | 068    | 2742 | 14778 | 1159    | 04760  | 0728 |
| 1200  | 0262    | 34439  | 077    | 2749 | 14801 | 1301    | 06356  | 0669 |
| 1500  | 0231 B  | 34501  | 079    | 2757 | 14839 | 1494    | 09032  | 0603 |
| 2000  | 0193    | 34579  | 142    | 2766 | 14908 | 1780    | 14146  | 0524 |
| 2500  | 0173    | 34616  | 203    | 2771 | 14986 | 2038    | 20114  | 0489 |
| 3000  | 0159    | 34644  | 261    | 2774 | 15067 | 2282    | 27032  | 0467 |
| 3500  | 0152    | 34669  | 301    | 2776 | 15151 | 2517    | 34930  | 0453 |
| 4000  | 0151    | 34673  | 327    | 2777 | 15239 | 2752    | 44050  | 0462 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 4220 | WAVES 1 0422 | AIR T 03.8 | VIS     |
| CONS. NO 002 | MONTH 1  | MXSAMPD 05   | WAVES 2 0422 | WET B 01.1 | STN 102 |
| LAT 49-590N  | DAY 24   | NO.DPTH 15   | WND-DIR 040  | WW-CODE 01 |         |
| LON 145-030W | HR 19.5  | W-COLOR 00   | WND-SPD 08   | CLD-TPE 2  |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP 17   | BARO 1017.0  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 195 | 0000  | 055 B   | 32803 | 710    | 2590 | 14701 |
| 195 | 0009  | 0555    | 32590 | 708    | 2573 | 14702 |
| 195 | 0017  | 0557    | 32590 | 709    | 2572 | 14704 |
| 195 | 0026  | 0555    | 32591 | 709    | 2573 | 14705 |
| 195 | 0043  | 0554    | 32589 | 711    | 2573 | 14707 |
| 195 | 0064  | 0555    | 32591 | 709    | 2573 | 14711 |
| 195 | 0086  | 0557    | 32589 | 709    | 2572 | 14716 |
| 195 | 0107  | 0558    | 32590 | 705    | 2572 | 14719 |
| 195 | 0128  | 0458 B  | 33112 | 595    | 2625 | 14689 |
| 195 | 0150  | 0444    | 33471 | 475    | 2655 | 14691 |
| 195 | 0171  | 0414    | 33632 | 392    | 2671 | 14684 |
| 195 | 0213  | 0385    | 33722 | 306    | 2681 | 14680 |
| 195 | 0260  | 0360    | 33780 | 230    | 2688 | 14678 |
| 195 | 0355  | 0351    | 33899 | 148    | 2698 | 14691 |
| 195 | 0451  | 0353    | 34032 | 099    | 2709 | 14710 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0550 B  | 32803  | 710    | 2590 | 14701 | 0000    | 00000  | 2110 |
| 0010  | 0555    | 32585  | 708    | 2572 | 14702 | 0022    | 00001  | 2280 |
| 0020  | 0557    | 32590  | 709    | 2573 | 14705 | 0045    | 00005  | 2279 |
| 0030  | 0555    | 32591  | 709    | 2573 | 14705 | 0068    | 00011  | 2277 |
| 0050  | 0554    | 32590  | 710    | 2573 | 14708 | 0114    | 00029  | 2280 |
| 0075  | 0556    | 32590  | 709    | 2573 | 14713 | 0171    | 00066  | 2284 |
| 0100  | 0563 B  | 3256 F | 712 B  | 2569 | 14720 | 0229    | 00118  | 2317 |
| 0125  | 0473 C  | 3303 E | 614    | 2617 | 14693 | 0282    | 00178  | 1870 |
| 0150  | 0444    | 33471  | 475    | 2655 | 14691 | 0324    | 00238  | 1509 |
| 0175  | 0410    | 3365 B | 381    | 2672 | 14683 | 0360    | 00297  | 1344 |
| 0200  | 0391    | 3371 C | 326    | 2679 | 14680 | 0393    | 00361  | 1278 |
| 0225  | 0378    | 33739  | 284    | 2683 | 14679 | 0425    | 00430  | 1247 |
| 0250  | 0364    | 33770  | 244    | 2687 | 14678 | 0456    | 00506  | 1213 |
| 0300  | 0352    | 33829  | 188    | 2693 | 14682 | 0516    | 00674  | 1159 |
| 0400  | 0345 B  | 33961  | 113 B  | 2704 | 14697 | 0628    | 01075  | 1060 |

C-REF-NO 001 YR 1967 DEPTH C 4220 WAVES 1 0433 AIR T 03.3 VIS  
 CONS. NO 003 MONTH 1 MXSAMPD 19 WAVES 2 0422 WET B 01.6 STN 103  
 LAT 50-000N DAY 26 NO.DPTH 21 WND-DIR 040 WW-CODE 02  
 LON 145-000W HR 19.3 W-COLOR 00 WND-SPD 13 CLD-TPE 2  
 MARSD SQ 195 C/I 1802 W-TRNSP 17 BARO 1011.0 CLD-AMT 7 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 193 | 0000  | 057 B   | 32613 | 711    | 2573 | 14707 |
| 193 | 0009  | 0552    | 32599 | 711    | 2574 | 14701 |
| 193 | 0018  | 0554    | 32600 | 708    | 2574 | 14703 |
| 193 | 0027  | 0552    | 32599 | 709    | 2574 | 14704 |
| 193 | 0045  | 0552    | 32604 | 705    | 2574 | 14707 |
| 193 | 0068  | 0552    | 32600 | 705    | 2574 | 14711 |
| 193 | 0091  | 0554    | 32600 | 707    | 2574 | 14715 |
| 193 | 0114  | 0554    | 32603 | 706    | 2574 | 14719 |
| 193 | 0137  | 0480    | 32945 | 637    | 2609 | 14697 |
| 193 | 0160  | 0443    | 33482 | 472    | 2656 | 14692 |
| 193 | 0182  | 0425    | 33634 | 403    | 2670 | 14691 |
| 193 | 0228  | 0391    | 33721 | 310    | 2680 | 14685 |
| 193 | 0274  | 0361    | 33799 | 227    | 2689 | 14681 |
| 193 | 0365  | 0347    | 33922 | 135    | 2700 | 14692 |
| 200 | 0483  | 0353    | 34101 | 102    | 2714 | 14716 |
| 200 | 0569  | 0343 B  | 34153 | 073    | 2719 | 14727 |
| 200 | 0764  | 0325 B  | 34265 | 065    | 2730 | 14753 |
| 200 | 0959  | 0296    | 34354 | 074    | 2740 | 14774 |
| 200 | 1156  | 0268    | 34418 | 071    | 2747 | 14796 |
| 200 | 1453  | 0233    | 34488 | 082    | 2756 | 14832 |
| 200 | 1950  | 0200    | 34563 | 136    | 2764 | 14903 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0570 B  | 32613  | 711    | 2573 | 14707 | 0000    | 00000  | 2275 |
| 0010  | 0552    | 32599  | 711    | 2574 | 14701 | 0023    | 00001  | 2266 |
| 0020  | 0554    | 32600  | 708    | 2574 | 14703 | 0046    | 00005  | 2268 |
| 0030  | 0552    | 32600  | 708    | 2574 | 14704 | 0068    | 00011  | 2267 |
| 0050  | 0552    | 32603  | 705    | 2574 | 14708 | 0114    | 00029  | 2267 |
| 0075  | 0553    | 32600  | 706    | 2574 | 14712 | 0171    | 00066  | 2273 |
| 0100  | 0559 B  | 3258 E | 711    | 2572 | 14718 | 0229    | 00118  | 2296 |
| 0125  | 0521 B  | 3273 B | 683    | 2588 | 14709 | 0285    | 00182  | 2142 |
| 0150  | 0456    | 3326 H | 544 C  | 2637 | 14693 | 0333    | 00249  | 1679 |
| 0175  | 0430    | 3361 C | 419    | 2667 | 14691 | 0371    | 00313  | 1393 |
| 0200  | 0411    | 3369 D | 362    | 2675 | 14688 | 0406    | 00379  | 1317 |
| 0225  | 0393    | 33720  | 315    | 2680 | 14685 | 0438    | 00450  | 1276 |
| 0250  | 0375    | 33760  | 268    | 2685 | 14683 | 0470    | 00527  | 1231 |
| 0300  | 0353    | 33836  | 193    | 2693 | 14682 | 0530    | 00696  | 1155 |
| 0400  | 0349    | 3398 B | 121 B  | 2705 | 14699 | 0641    | 01094  | 1050 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0500  | 0351    | 34114 | 096    | 2715 | 14718 | 0743    | 01560  | 0960 |
| 0600  | 0340 B  | 34172 | 068    | 2721 | 14731 | 0837    | 02094  | 0913 |
| 0700  | 0331 B  | 34230 | 062    | 2726 | 14745 | 0927    | 02694  | 0867 |
| 0800  | 0320 B  | 34283 | 066    | 2732 | 14757 | 1013    | 03352  | 0822 |
| 1000  | 0290    | 34369 | 074    | 2741 | 14779 | 1171    | 04807  | 0739 |
| 1200  | 0262    | 34430 | 072    | 2749 | 14801 | 1314    | 06423  | 0675 |
| 1500  | 0229    | 34500 | 085    | 2757 | 14838 | 1508    | 09109  | 0602 |



|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 4220 | WAVES 1 0222 | AIR T 03.8 | VIS     |
| CONS. NO 004 | MONTH 1  | MXSAMPD 05   | WAVES 2 0222 | WET B 01.6 | STN 104 |
| LAT 49-560N  | DAY 27   | NO.DPTH 16   | WND-DIR 020  | WW-CODE 02 |         |
| LON 145-050W | HR 19.4  | W-COLOR 00   | WND-SPD 10   | CLD-TPE 8  |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP 17   | BARU 1006.0  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 194 | 0000  | 057 B   | 32627 | 710    | 2574 | 14707 |
| 194 | 0003  | 0551    | 32599 | 708    | 2574 | 14700 |
| 194 | 0010  | 0551    | 32602 | 709    | 2574 | 14701 |
| 194 | 0020  | 0553    | 32600 | 710    | 2574 | 14703 |
| 194 | 0030  | 0551    | 32600 | 710    | 2574 | 14704 |
| 194 | 0049  | 0550    | 32600 | 710    | 2574 | 14707 |
| 194 | 0074  | 0551    | 32601 | 710    | 2574 | 14711 |
| 194 | 0099  | 0553    | 32601 | 705    | 2574 | 14716 |
| 194 | 0124  | 0553    | 32605 | 705    | 2574 | 14720 |
| 194 | 0148  | 0427    | 33420 | 486    | 2653 | 14683 |
| 194 | 0173  | 0420    | 33619 | 409    | 2669 | 14687 |
| 194 | 0198  | 0393    | 33696 | 334    | 2678 | 14681 |
| 194 | 0247  | 0368    | 33765 | 253    | 2686 | 14679 |
| 194 | 0297  | 0355    | 33827 | 191    | 2692 | 14683 |
| 194 | 0396  | 0348    | 33966 | 125    | 2704 | 14698 |
| 194 | 0495  | 0349    | 34075 | 082 B  | 2712 | 14716 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0570 B  | 32627  | 710    | 2574 | 14707 | 0000    | 00000  | 2264 |
| 0010  | 0551    | 32602  | 709    | 2574 | 14701 | 0023    | 00001  | 2263 |
| 0020  | 0553    | 32600  | 710    | 2574 | 14703 | 0046    | 00005  | 2267 |
| 0030  | 0551    | 32600  | 710    | 2574 | 14704 | 0068    | 00011  | 2266 |
| 0050  | 0550    | 32600  | 710    | 2574 | 14707 | 0114    | 00029  | 2267 |
| 0075  | 0551    | 32601  | 710    | 2574 | 14711 | 0171    | 00066  | 2270 |
| 0100  | 0554    | 3259 B | 707    | 2573 | 14717 | 0228    | 00117  | 2282 |
| 0125  | 0548    | 3264 C | 697    | 2577 | 14719 | 0285    | 00183  | 2244 |
| 0150  | 0424    | 3345 B | 477    | 2655 | 14683 | 0333    | 00248  | 1504 |
| 0175  | 0418    | 33628  | 403    | 2670 | 14686 | 0369    | 00309  | 1367 |
| 0200  | 0391    | 33700  | 330    | 2678 | 14680 | 0402    | 00373  | 1288 |
| 0225  | 0376    | 3374 B | 283    | 2683 | 14679 | 0434    | 00442  | 1243 |
| 0250  | 0367    | 33769  | 249    | 2686 | 14679 | 0465    | 00518  | 1216 |
| 0300  | 0355    | 33831  | 188    | 2692 | 14683 | 0525    | 00687  | 1160 |
| 0400  | 0345    | 3396 B | 115 B  | 2704 | 14697 | 0637    | 01087  | 1059 |
| 0500  | 0350    | 34081  | 081 B  | 2713 | 14717 | 0740    | 01562  | 0983 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 4220 | WAVES 1 2723 | AIR T 04.4 | VIS     |
| CONS. NO 005 | MONTH 1  | MXSAMPD 05   | WAVES 2 2723 | WET B 01.6 | STN 105 |
| LAT 49-570N  | DAY 30   | NO.DPTH 16   | WND-DIR 270  | WW-CUDE 01 |         |
| LON 145-050W | HR 19.4  | W-COLOR 00   | WND-SPD 08   | CLD-TPE 7  |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP 16   | BARO 1009.0  | CLD-AMT 4  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 194 | 0000  | 056 B   | 32629 | 709    | 2575 | 14703 |
| 194 | 0003  | 0542    | 32600 | 707    | 2575 | 14696 |
| 194 | 0010  | 0543    | 32601 | 709    | 2575 | 14697 |
| 194 | 0020  | 0545    | 32604 | 709    | 2575 | 14700 |
| 194 | 0030  | 0544    | 32600 | 710    | 2575 | 14701 |
| 194 | 0050  | 0543    | 32600 | 705    | 2575 | 14704 |
| 194 | 0075  | 0543    | 32601 | 707    | 2575 | 14708 |
| 194 | 0100  | 0545 B  | 32602 | 705    | 2575 | 14713 |
| 194 | 0125  | 0475    | 32932 | 632    | 2609 | 14693 |
| 194 | 0150  | 0438    | 33385 | 505    | 2649 | 14687 |
| 194 | 0175  | 0418    | 33653 | 387    | 2672 | 14687 |
| 194 | 0200  | 0391    | 33702 | 328    | 2679 | 14680 |
| 194 | 0250  | 0367    | 33781 | 239    | 2687 | 14679 |
| 194 | 0300  | 0356    | 33834 | 187    | 2693 | 14684 |
| 194 | 0400  | 0349    | 33959 | 119    | 2703 | 14699 |
| 194 | 0500  | 0347    | 34093 | 086    | 2714 | 14716 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0560 B  | 32629 | 709    | 2575 | 14703 | 0000    | 00000  | 2251 |
| 0010  | 0543    | 32601 | 709    | 2575 | 14697 | 0023    | 00001  | 2255 |
| 0020  | 0545    | 32604 | 709    | 2575 | 14700 | 0045    | 00005  | 2256 |
| 0030  | 0544    | 32600 | 710    | 2575 | 14701 | 0068    | 00010  | 2258 |
| 0050  | 0543    | 32600 | 705    | 2575 | 14704 | 0114    | 00029  | 2259 |
| 0075  | 0543    | 32601 | 707    | 2575 | 14708 | 0170    | 00066  | 2261 |
| 0100  | 0545 B  | 32602 | 705    | 2575 | 14713 | 0227    | 00117  | 2265 |
| 0125  | 0475    | 32932 | 632    | 2609 | 14693 | 0280    | 00177  | 1944 |
| 0150  | 0438    | 33385 | 505    | 2649 | 14687 | 0325    | 00239  | 1567 |
| 0175  | 0418    | 33653 | 387    | 2672 | 14687 | 0361    | 00300  | 1348 |
| 0200  | 0391    | 33702 | 328    | 2679 | 14680 | 0394    | 00364  | 1286 |
| 0225  | 0376    | 33745 | 279    | 2684 | 14678 | 0426    | 00433  | 1240 |
| 0250  | 0367    | 33781 | 239    | 2687 | 14679 | 0457    | 00508  | 1206 |
| 0300  | 0356    | 33834 | 187    | 2693 | 14684 | 0517    | 00677  | 1160 |
| 0400  | 0349    | 33959 | 119    | 2703 | 14699 | 0629    | 01078  | 1066 |
| 0500  | 0347    | 34093 | 086    | 2714 | 14716 | 0732    | 01551  | 0971 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 4220 | WAVES 1 1223 | AIR T 06.6 | VIS     |
| CONS. NO 006 | MONTH 2  | MXSAMPD 19   | WAVES 2 2722 | WET B 05.5 | STN 106 |
| LAT 49-580N  | DAY 01   | NO.DPTH 21   | WND-DIR 120  | WW-CODE 01 |         |
| LON 144-570W | HR 19.5  | W-COLOR 00   | WND-SPD 13   | CLD-TPE 1  |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP 16   | BARO 991.0   | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 195 | 0000  | 056 B   | 32578 | 709    | 2571 | 14703 |
| 195 | 0010  | 0542    | 32604 | 709    | 2575 | 14697 |
| 195 | 0020  | 0544    | 32600 | 707    | 2575 | 14700 |
| 195 | 0030  | 0543    | 32605 | 709    | 2575 | 14701 |
| 195 | 0050  | 0542    | 32606 | 705    | 2575 | 14704 |
| 195 | 0075  | 0542    | 32609 | 705    | 2576 | 14708 |
| 195 | 0100  | 0544    | 32609 | 704    | 2575 | 14713 |
| 195 | 0125  | 0466    | 33211 | 570    | 2632 | 14693 |
| 195 | 0150  | 0449    | 33528 | 463    | 2659 | 14694 |
| 195 | 0175  | 0419    | 33669 | 378    | 2673 | 14687 |
| 195 | 0200  | 0399 B  | 33720 | 343    | 2679 | 14684 |
| 195 | 0250  | 0373    | 33775 | 254    | 2686 | 14682 |
| 195 | 0300  | 0361    | 33831 | 201    | 2692 | 14686 |
| 195 | 0400  | 0350    | 33966 | 124    | 2704 | 14699 |
| 202 | 0443  | 0353    | 34005 | 106    | 2706 | 14708 |
| 202 | 0534  | 0346    | 34116 | 077    | 2716 | 14722 |
| 202 | 0717  | 0330 B  | 34260 | 085    | 2729 | 14747 |
| 202 | 0902  | 0301    | 34344 | 077    | 2738 | 14767 |
| 202 | 1089  | 0274 B  | 34405 | 071    | 2746 | 14787 |
| 202 | 1373  | 0240    | 34471 | 075    | 2754 | 14821 |
| 202 | 1856  | 0202    | 34552 | 128    | 2763 | 14887 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0560 B  | 32578 | 709    | 2571 | 14703 | 0000    | 00000  | 2290 |
| 0010  | 0542    | 32604 | 709    | 2575 | 14697 | 0023    | 00001  | 2251 |
| 0020  | 0544    | 32600 | 707    | 2575 | 14700 | 0046    | 00005  | 2257 |
| 0030  | 0543    | 32605 | 709    | 2575 | 14701 | 0068    | 00010  | 2254 |
| 0050  | 0542    | 32606 | 705    | 2575 | 14704 | 0114    | 00029  | 2254 |
| 0075  | 0542    | 32609 | 705    | 2576 | 14708 | 0170    | 00065  | 2254 |
| 0100  | 0544    | 32609 | 704    | 2575 | 14713 | 0227    | 00116  | 2259 |
| 0125  | 0466    | 33211 | 570    | 2632 | 14693 | 0277    | 00173  | 1725 |
| 0150  | 0449    | 33528 | 463    | 2659 | 14694 | 0318    | 00230  | 1471 |
| 0175  | 0419    | 33669 | 378    | 2673 | 14687 | 0353    | 00289  | 1337 |
| 0200  | 0399 B  | 33720 | 343    | 2679 | 14684 | 0386    | 00352  | 1280 |
| 0225  | 0384    | 33751 | 298    | 2683 | 14682 | 0418    | 00421  | 1244 |
| 0250  | 0373    | 33775 | 254    | 2686 | 14682 | 0449    | 00497  | 1217 |
| 0300  | 0361    | 33831 | 201    | 2692 | 14686 | 0509    | 00666  | 1167 |
| 0400  | 0350    | 33966 | 124    | 2704 | 14699 | 0621    | 01068  | 1062 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|---------|------|
| 0500  | 0350    | 34074 | 086    | 2712 | 14717 | 0725    | 01545   | 0988 |
| 0600  | 0341    | 34178 | 076 B  | 2721 | 14731 | 0821    | 02085   | 0909 |
| 0700  | 0332 B  | 34250 | 083    | 2728 | 14745 | 0910    | 02678   | 0853 |
| 0800  | 0318    | 34303 | 082    | 2733 | 14756 | 0993    | 03324   | 0805 |
| 1000  | 0286    | 34378 | 073    | 2742 | 14777 | 1149    | 04753   | 0729 |
| 1200  | 0260 B  | 34434 | 070    | 2749 | 14800 | 1290    | 06352   | 0670 |
| 1500  | 0228 B  | 34501 | 084    | 2757 | 14838 | 1484    | 09023   | 0600 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 4220 | WAVES 1 2673 | AIR T 06.6 | VIS     |
| CONS. NO 007 | MONTH 2  | MXSAMPD 19   | WAVES 2 2673 | WET B 06.1 | STN 107 |
| LAT 50-000N  | DAY 15   | NO.DPTH 21   | WND-DIR 260  | WW-CODE 02 |         |
| LON 145-000W | HR 19.3  | W-COLOR 20   | WND-SPD 08   | CLD-TPE 8  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 17   | BARO 1014.0  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 193 | 0000  | 055 B   | 32632 | 705    | 2577 | 14699 |
| 193 | 0010  | 0522    | 32633 | 708    | 2580 | 14689 |
| 193 | 0020  | 0524    | 32638 | 706    | 2580 | 14692 |
| 193 | 0030  | 0523    | 32630 | 709    | 2580 | 14693 |
| 193 | 0050  | 0521    | 32630 | 708    | 2580 | 14695 |
| 193 | 0075  | 0520    | 32630 | 708    | 2580 | 14699 |
| 193 | 0099  | 0523    | 32633 | 713    | 2580 | 14704 |
| 193 | 0124  | 0523    | 32641 | 710    | 2580 | 14708 |
| 193 | 0149  | 0446 B  | 33416 | 504    | 2650 | 14691 |
| 193 | 0174  | 0431    | 33607 | 423    | 2667 | 14691 |
| 193 | 0199  | 0409    | 33689 | 364    | 2676 | 14687 |
| 193 | 0249  | 0377    | 33768 | 274    | 2685 | 14683 |
| 193 | 0298  | 0359    | 33823 | 204    | 2691 | 14684 |
| 193 | 0398  | 0349    | 33974 | 125    | 2704 | 14699 |
| 199 | 0470  | 0355    | 34057 | 115    | 2710 | 14714 |
| 199 | 0566  | 0346    | 34143 | 097    | 2718 | 14727 |
| 199 | 0757  | 0323    | 34281 | 082    | 2731 | 14751 |
| 199 | 0948  | 0296    | 34366 | 076    | 2740 | 14773 |
| 199 | 1140  | 0269    | 34430 | 076    | 2748 | 14794 |
| 199 | 1427  | 0235    | 34496 | 078    | 2756 | 14828 |
| 199 | 1905  | 0199    | 34580 | 131    | 2766 | 14895 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0550 B  | 32632  | 705    | 2577 | 14699 | 0000    | 00000  | 2238 |
| 0010  | 0522    | 32633  | 708    | 2580 | 14689 | 0022    | 00001  | 2208 |
| 0020  | 0524    | 32638  | 706    | 2580 | 14692 | 0045    | 00005  | 2207 |
| 0030  | 0523    | 32630  | 709    | 2580 | 14693 | 0067    | 00010  | 2213 |
| 0050  | 0521    | 32630  | 708    | 2580 | 14695 | 0111    | 00029  | 2213 |
| 0075  | 0520    | 32630  | 708    | 2580 | 14699 | 0167    | 00064  | 2214 |
| 0100  | 0524    | 3263 B | 715    | 2579 | 14705 | 0223    | 00114  | 2223 |
| 0125  | 0520    | 3267 C | 703    | 2583 | 14708 | 0278    | 00178  | 2189 |
| 0150  | 0445 B  | 33430  | 499    | 2651 | 14691 | 0325    | 00244  | 1540 |
| 0175  | 0430    | 33612  | 420    | 2667 | 14691 | 0362    | 00305  | 1391 |
| 0200  | 0408    | 33691  | 362    | 2676 | 14687 | 0396    | 00370  | 1311 |
| 0225  | 0391    | 3374 B | 314    | 2682 | 14685 | 0429    | 00441  | 1260 |
| 0250  | 0377    | 33769  | 272    | 2685 | 14683 | 0460    | 00517  | 1225 |
| 0300  | 0359    | 33826  | 202    | 2692 | 14685 | 0520    | 00687  | 1168 |
| 0400  | 0349    | 33977  | 124    | 2705 | 14699 | 0633    | 01087  | 1053 |



| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0500  | 0353    | 34086 | 109    | 2713 | 14719 | 0735    | 01561  | 0983 |
| 0600  | 0342    | 34171 | 093    | 2721 | 14732 | 0831    | 02101  | 0915 |
| 0700  | 0330    | 34245 | 085    | 2728 | 14744 | 0921    | 02698  | 0855 |
| 0800  | 0317    | 34303 | 080    | 2734 | 14756 | 1005    | 03344  | 0804 |
| 1000  | 0289    | 34385 | 076    | 2743 | 14778 | 1159    | 04769  | 0726 |
| 1200  | 0261    | 34446 | 075    | 2750 | 14801 | 1300    | 06356  | 0663 |
| 1500  | 0228    | 34517 | 087    | 2758 | 14838 | 1490    | 08987  | 0589 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 4220 | WAVES 1 2362 | AIR T 05.5 | VIS     |
| CONS. NO 008 | MONTH 2  | MXSAMPD 42   | WAVES 2 2362 | WET B 04.4 | STN 108 |
| LAT 50-040N  | DAY 22   | NO.DPTH 26   | WND-DIR 230  | WW-CODE 03 |         |
| LON 144-550W | HR 18.9  | W-COLOR 20   | WND-SPD 08   | CLD-TPE 8  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 18   | BARO 1014.0  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 189 | 0000  | 055 B   | 32612 | 715    | 2575 | 14699 |
| 189 | 0009  | 0527    | 32629 | 723    | 2579 | 14691 |
| 189 | 0019  | 0529    | 32624 | 720    | 2578 | 14694 |
| 189 | 0028  | 0527    | 32625 | 719    | 2579 | 14694 |
| 189 | 0047  | 0527    | 32629 | 717    | 2579 | 14697 |
| 189 | 0071  | 0522    | 32631 | 719    | 2580 | 14699 |
| 189 | 0095  | 0522    | 32634 | 717    | 2580 | 14703 |
| 189 | 0118  | 0519    | 32658 | 709    | 2582 | 14706 |
| 189 | 0142  | 0452    | 33314 | 535    | 2641 | 14691 |
| 189 | 0166  | 0440    | 33588 | 439    | 2664 | 14694 |
| 189 | 0189  | 0421    | 33690 | 373    | 2675 | 14691 |
| 189 | 0237  | 0386    | 33755 | 287    | 2683 | 14685 |
| 189 | 0284  | 0365    | 33809 | 230    | 2690 | 14684 |
| 189 | 0379  | 0353    | 33937 | 145    | 2701 | 14697 |
| 189 | 0474  | 0353    | 34049 | 112    | 2710 | 14714 |
| 189 | 0569  | 0349    | 34139 | 091    | 2717 | 14729 |
| 200 | 0800  | 0321    | 34281 | 074    | 2731 | 14758 |
| 200 | 1000  | 0292    | 34369 | 074    | 2741 | 14780 |
| 200 | 1200  | 0264    | 34428 | 081    | 2748 | 14802 |
| 200 | 1500  | 0233    | 34505 | 087    | 2757 | 14840 |
| 200 | 2000  | 0196    | 34576 | 146    | 2766 | 14910 |
| 200 | 2500  | 0175    | 34621 | 203    | 2771 | 14987 |
| 200 | 3000  | 0159    | 34646 | 267    | 2774 | 15066 |
| 200 | 3500  | 0153    | 34666 | 303 B  | 2776 | 15151 |
| 200 | 4000  | 0152    | 34674 | 327    | 2777 | 15239 |
| 200 | 4200  | 0151 B  | 34676 | 334    | 2777 | 15274 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0550 B  | 32612  | 715    | 2575 | 14699 | 0000    | 00000  | 2253 |
| 0010  | 0527    | 32629  | 723    | 2579 | 14691 | 0022    | 00001  | 2216 |
| 0020  | 0529    | 32624  | 720    | 2578 | 14694 | 0045    | 00005  | 2223 |
| 0030  | 0527    | 32625  | 719    | 2579 | 14694 | 0067    | 00010  | 2221 |
| 0050  | 0526    | 32629  | 717    | 2579 | 14698 | 0112    | 00029  | 2219 |
| 0075  | 0522    | 32631  | 719    | 2580 | 14700 | 0168    | 00064  | 2215 |
| 0100  | 0524    | 3261 E | 722 B  | 2578 | 14705 | 0224    | 00115  | 2233 |
| 0125  | 0500 B  | 3284 I | 663 C  | 2598 | 14702 | 0277    | 00177  | 2042 |
| 0150  | 0445    | 3344 C | 497    | 2652 | 14691 | 0323    | 00239  | 1537 |
| 0175  | 0433    | 3364 B | 411    | 2669 | 14693 | 0359    | 00300  | 1373 |

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|---------|------|
| 0200  | 0412    | 3371 B | 349    | 2677 | 14689 | 0393    | 00365   | 1298 |
| 0225  | 0394    | 3375 B | 304    | 2682 | 14686 | 0425    | 00435   | 1256 |
| 0250  | 0379    | 33770  | 269    | 2685 | 14684 | 0456    | 00511   | 1227 |
| 0300  | 0361    | 33830  | 212    | 2692 | 14686 | 0517    | 00681   | 1167 |
| 0400  | 0353    | 33963  | 135    | 2703 | 14700 | 0629    | 01084   | 1067 |
| 0500  | 0352    | 34076  | 105    | 2712 | 14718 | 0733    | 01562   | 0990 |
| 0600  | 0346    | 34162  | 087    | 2720 | 14733 | 0830    | 02107   | 0926 |
| 0700  | 0335    | 34229  | 077    | 2726 | 14746 | 0921    | 02713   | 0872 |
| 0800  | 0321    | 34281  | 074    | 2731 | 14758 | 1007    | 03374   | 0825 |
| 1000  | 0292    | 34369  | 074    | 2741 | 14780 | 1165    | 04834   | 0741 |
| 1200  | 0264    | 34428  | 081    | 2748 | 14802 | 1309    | 06457   | 0679 |
| 1500  | 0233    | 34505  | 087    | 2757 | 14840 | 1504    | 09151   | 0603 |
| 2000  | 0196    | 34576  | 146    | 2766 | 14910 | 1792    | 14294   | 0529 |
| 2500  | 0175    | 34621  | 203    | 2771 | 14987 | 2051    | 20288   | 0489 |
| 3000  | 0159    | 34646  | 267    | 2774 | 15067 | 2294    | 27191   | 0465 |
| 3500  | 0153    | 34666  | 303 B  | 2776 | 15152 | 2530    | 35113   | 0457 |
| 4000  | 0152    | 34674  | 327    | 2777 | 15239 | 2766    | 44277   | 0463 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 4220 | WAVES 1 1762 | AIR T 06.1 | VIS     |
| CONS. NO 009 | MONTH 2  | MXSAMPD 05   | WAVES 2 1762 | WET B 04.9 | STN 109 |
| LAT 50-010N  | DAY 25   | NO.DPTH 16   | WND-DIR 170  | WW-CODE 03 |         |
| LON 144-590W | HR 19.3  | W-COLOR 30   | WND-SPD 08   | CLD-TPE 8  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 16   | BARO 982.0   | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 193 | 0000  | 054 B   | 32604 | 715    | 2576 | 14695 |
| 193 | 0003  | 0517    | 32615 | 717    | 2579 | 14686 |
| 193 | 0009  | 0517    | 32613 | 717    | 2579 | 14687 |
| 193 | 0019  | 0518    | 32615 | 717    | 2579 | 14689 |
| 193 | 0028  | 0517    | 32613 | 718    | 2579 | 14690 |
| 193 | 0047  | 0517    | 32613 | 717    | 2579 | 14693 |
| 193 | 0071  | 0516    | 32613 | 717    | 2579 | 14697 |
| 193 | 0095  | 0519    | 32612 | 719    | 2579 | 14702 |
| 193 | 0119  | 0519    | 32612 | 715    | 2579 | 14706 |
| 193 | 0143  | 0464    | 33200 | 558    | 2631 | 14695 |
| 193 | 0167  | 0440    | 33559 | 426    | 2662 | 14693 |
| 193 | 0190  | 0413    | 33688 | 354    | 2675 | 14688 |
| 193 | 0238  | 0380    | 33743 | 283    | 2683 | 14682 |
| 193 | 0286  | 0366    | 33808 | 214    | 2689 | 14685 |
| 193 | 0384  | 0356    | 33929 | 142    | 2700 | 14699 |
| 193 | 0483  | 0354    | 34031 | 100    | 2708 | 14716 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0540 B  | 32604  | 715    | 2576 | 14695 | 0000    | 00000  | 2248 |
| 0010  | 0517    | 32613  | 717    | 2579 | 14687 | 0022    | 00001  | 2217 |
| 0020  | 0518    | 32615  | 717    | 2579 | 14689 | 0045    | 00005  | 2218 |
| 0030  | 0517    | 32613  | 718    | 2579 | 14690 | 0067    | 00010  | 2219 |
| 0050  | 0517    | 32613  | 717    | 2579 | 14693 | 0112    | 00029  | 2221 |
| 0075  | 0516    | 32613  | 717    | 2579 | 14697 | 0168    | 00065  | 2223 |
| 0100  | 0521    | 3259 E | 725 B  | 2576 | 14703 | 0224    | 00115  | 2249 |
| 0125  | 0506 B  | 3274 I | 682 B  | 2590 | 14703 | 0279    | 00178  | 2120 |
| 0150  | 0456    | 33328  | 515    | 2642 | 14694 | 0326    | 00244  | 1628 |
| 0175  | 0430    | 3362 B | 397    | 2668 | 14692 | 0364    | 00307  | 1386 |
| 0200  | 0404    | 3371 C | 335    | 2678 | 14686 | 0398    | 00372  | 1292 |
| 0225  | 0386    | 3374 C | 297    | 2682 | 14683 | 0430    | 00442  | 1253 |
| 0250  | 0375    | 33759  | 265    | 2685 | 14683 | 0461    | 00518  | 1231 |
| 0300  | 0364    | 33826  | 200    | 2691 | 14687 | 0522    | 00689  | 1173 |
| 0400  | 0353    | 33946  | 124 B  | 2702 | 14700 | 0636    | 01095  | 1079 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 3549 | WAVES 1 2836 | AIR T 05.5 | VIS     |
| CONS. NO 010 | MONTH 2  | MXSAMPD 04   | WAVES 2 XX   | WET B 03.8 | STN 008 |
| LAT 49-170N  | DAY 28   | NO.DPTH 14   | WND-DIR 280  | WW-CODE 02 |         |
| LON 134-400W | HR 21.2  | W-COLOR 00   | WND-SPD 10   | CLD-TPE 6  |         |
| MARSD SQ 158 | C/I 1802 | W-TRNSP 13   | BARO 1014.0  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 212 | 0000  | 069 B   | 3254 C |        | 2552 | 14754 |
| 212 | 0010  | 0665    | 3254 C |        | 2555 | 14746 |
| 212 | 0020  | 0667    | 3254 C |        | 2555 | 14748 |
| 212 | 0030  | 0666    | 3254 C |        | 2555 | 14750 |
| 212 | 0050  | 0665    | 3255 C |        | 2556 | 14753 |
| 212 | 0075  | 0664    | 3255 C |        | 2556 | 14756 |
| 212 | 0100  | 0665    | 3259 C |        | 2559 | 14761 |
| 212 | 0125  | 0609 B  | 3309 C |        | 2606 | 14750 |
| 212 | 0150  | 0569    | 3338 C |        | 2633 | 14741 |
| 212 | 0175  | 0553    | 3359 C |        | 2652 | 14742 |
| 212 | 0200  | 0540    | 3368 C |        | 2661 | 14742 |
| 212 | 0250  | 0473    | 3375 C |        | 2674 | 14723 |
| 212 | 0300  | 0438    | 3382 C |        | 2683 | 14718 |
| 212 | 0400  | 0397    | 3393 C |        | 2696 | 14719 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0690 B  | 3254 C |        | 2552 | 14754 | 0000    | 00000  | 2473 |
| 0010  | 0665    | 3254 C |        | 2555 | 14746 | 0025    | 00001  | 2443 |
| 0020  | 0667    | 3254 C |        | 2555 | 14748 | 0049    | 00005  | 2447 |
| 0030  | 0666    | 3254 C |        | 2555 | 14750 | 0074    | 00011  | 2447 |
| 0050  | 0665    | 3255 C |        | 2556 | 14753 | 0123    | 00032  | 2441 |
| 0075  | 0664    | 3255 C |        | 2556 | 14756 | 0185    | 00071  | 2442 |
| 0100  | 0665    | 3259 C |        | 2559 | 14761 | 0246    | 00126  | 2417 |
| 0125  | 0609 B  | 3309 C |        | 2606 | 14750 | 0301    | 00189  | 1978 |
| 0150  | 0569    | 3338 C |        | 2633 | 14741 | 0348    | 00254  | 1716 |
| 0175  | 0553    | 3359 C |        | 2652 | 14742 | 0389    | 00322  | 1543 |
| 0200  | 0540    | 3368 C |        | 2661 | 14742 | 0426    | 00395  | 1464 |
| 0225  | 0508 B  | 3372 C |        | 2668 | 14733 | 0463    | 00474  | 1396 |
| 0250  | 0473    | 3375 C |        | 2674 | 14723 | 0497    | 00558  | 1341 |
| 0300  | 0438    | 3382 C |        | 2683 | 14718 | 0562    | 00742  | 1255 |
| 0400  | 0397    | 3393 C |        | 2696 | 14719 | 0683    | 01173  | 1137 |



|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 3143 | WAVES 1 2721 | AIR T 07.2 | VIS     |
| CONS. NO 011 | MONTH 3  | MXSAMPD 04   | WAVES 2 2633 | WET B 04.9 | STN 007 |
| LAT 49-100N  | DAY 01   | NO.DPTH 14   | WND-DIR 250  | WW-CODE 02 |         |
| LEN 132-400W | HR 03.3  | W-COLOR      | WND-SPD 02   | CLD-TPE 8  |         |
| MARSD SQ 158 | C/I 1802 | W-TRNSP      | BARO 1014.0  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 033 | 0000  | 067 B   | 3246 C |        | 2548 | 14745 |
| 033 | 0010  | 0653    | 3241 C |        | 2546 | 14739 |
| 033 | 0020  | 0654    | 3241 C |        | 2546 | 14742 |
| 033 | 0030  | 0652    | 3241 C |        | 2547 | 14742 |
| 033 | 0050  | 0651    | 3241 C |        | 2547 | 14745 |
| 033 | 0075  | 0648    | 3241 C |        | 2547 | 14748 |
| 033 | 0100  | 0627    | 3281 C |        | 2581 | 14749 |
| 033 | 0125  | 0651 C  | 3312 C |        | 2603 | 14767 |
| 036 | 0150  | 0652    | 3340 C |        | 2625 | 14775 |
| 036 | 0175  | 0650    | 3361 C |        | 2641 | 14781 |
| 036 | 0200  | 0617    | 3368 C |        | 2651 | 14773 |
| 036 | 0250  | 0544    | 3377 C |        | 2667 | 14753 |
| 036 | 0300  | 0488    | 3386 C |        | 2681 | 14739 |
| 036 | 0400  | 0436    | 3397 C |        | 2695 | 14736 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0670 B  | 3246 C |        | 2548 | 14745 | 0000    | 00000  | 2508 |
| 0010  | 0653    | 3241 C |        | 2546 | 14739 | 0025    | 00001  | 2526 |
| 0020  | 0654    | 3241 C |        | 2546 | 14742 | 0051    | 00005  | 2528 |
| 0030  | 0652    | 3241 C |        | 2547 | 14742 | 0076    | 00012  | 2527 |
| 0050  | 0651    | 3241 C |        | 2547 | 14745 | 0127    | 00033  | 2528 |
| 0075  | 0648    | 3241 C |        | 2547 | 14748 | 0191    | 00073  | 2527 |
| 0100  | 0627    | 3281 C |        | 2581 | 14749 | 0250    | 00126  | 2206 |
| 0125  | 0651 C  | 3312 C |        | 2603 | 14767 | 0303    | 00187  | 2007 |
| 0150  | 0652    | 3340 C |        | 2625 | 14775 | 0351    | 00255  | 1803 |
| 0175  | 0650    | 3361 C |        | 2641 | 14781 | 0395    | 00327  | 1647 |
| 0200  | 0617    | 3368 C |        | 2651 | 14773 | 0435    | 00404  | 1557 |
| 0225  | 0580    | 3373 C |        | 2660 | 14763 | 0473    | 00488  | 1478 |
| 0250  | 0544    | 3377 C |        | 2667 | 14753 | 0510    | 00576  | 1407 |
| 0300  | 0488    | 3386 C |        | 2681 | 14739 | 0577    | 00766  | 1280 |
| 0400  | 0436    | 3397 C |        | 2695 | 14736 | 0700    | 01204  | 1150 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 001 | YR 1967  | DEPTH C 2529 | WAVES 1 20XX | AIR T 09.4 | VIS     |
| CONS. NO 012 | MONTH 3  | MXSAMPD 04   | WAVES 2 XX   | WET B 07.2 | STN 005 |
| LAT 48-510N  | DAY 01   | NO.DPTH 14   | WND-DIR 200  | WW-CODE 02 |         |
| LON 128-400W | HR 15.6  | W-COLOR      | WND-SPD 06   | CLD-TPE 6  |         |
| MARSD SQ 157 | C/I 1802 | W-TRNSP      | BARO 1015.0  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 156 | 0000  | 077 B   | 3242 C |        | 2532 | 14784 |
| 156 | 0010  | 0760    | 3227 C |        | 2521 | 14780 |
| 156 | 0020  | 0761    | 3227 C |        | 2521 | 14782 |
| 156 | 0030  | 0760    | 3227 C |        | 2521 | 14783 |
| 156 | 0050  | 0760    | 3227 C |        | 2521 | 14786 |
| 156 | 0075  | 0737    | 3254 C |        | 2546 | 14785 |
| 156 | 0100  | 0705    | 3305 C |        | 2590 | 14783 |
| 156 | 0125  | 0724    | 3340 C |        | 2615 | 14799 |
| 156 | 0150  | 0699    | 3361 C |        | 2635 | 14796 |
| 156 | 0175  | 0690    | 3381 C |        | 2652 | 14800 |
| 156 | 0200  | 0660    | 3384 C |        | 2658 | 14792 |
| 156 | 0250  | 0616    | 3390 C |        | 2669 | 14784 |
| 156 | 0300  | 0578    | 3395 C |        | 2677 | 14777 |
| 156 | 0400  | 0513    | 3402 C |        | 2691 | 14768 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0770 B  | 3242 C |        | 2532 | 14784 | 0000    | 00000  | 2667 |
| 0010  | 0760    | 3227 C |        | 2521 | 14780 | 0027    | 00001  | 2767 |
| 0020  | 0761    | 3227 C |        | 2521 | 14782 | 0055    | 00006  | 2769 |
| 0030  | 0760    | 3227 C |        | 2521 | 14783 | 0083    | 00013  | 2769 |
| 0050  | 0760    | 3227 C |        | 2521 | 14786 | 0139    | 00036  | 2772 |
| 0075  | 0737    | 3254 C |        | 2546 | 14785 | 0206    | 00078  | 2544 |
| 0100  | 0705    | 3305 C |        | 2590 | 14783 | 0264    | 00130  | 2125 |
| 0125  | 0724    | 3340 C |        | 2615 | 14799 | 0315    | 00188  | 1893 |
| 0150  | 0699    | 3361 C |        | 2635 | 14796 | 0360    | 00252  | 1708 |
| 0175  | 0690    | 3381 C |        | 2652 | 14800 | 0401    | 00320  | 1550 |
| 0200  | 0660    | 3384 C |        | 2658 | 14792 | 0440    | 00394  | 1492 |
| 0225  | 0636    | 3387 C |        | 2664 | 14787 | 0477    | 00474  | 1442 |
| 0250  | 0616    | 3390 C |        | 2669 | 14784 | 0512    | 00562  | 1398 |
| 0300  | 0578    | 3395 C |        | 2677 | 14777 | 0581    | 00755  | 1320 |
| 0400  | 0513    | 3402 C |        | 2691 | 14768 | 0708    | 01208  | 1201 |



## SECTION IV

Bathythermograms





EXPLANATION OF DATA HEADINGS IN TABLES 1 AND 2

|               |  |
|---------------|--|
| CON No:       | The consecutive BT slide number.   |
| LAT: )        |  |
| ) Deg         |  |
| ) Min         | Position of platform at time of BT lowering.   |
| LONG: )       |  |
| DATE: Day     | Day  |
| Mon           | Month  |
| Yr            | Year   |
| GMT: Hrs      | The Greenwich Mean Time at which the BT lowering   |
| Min           | was made.  |
| DEPTH: Metres | Depth to bottom in metres, as read from U.S.<br>Coast and Geodetic Survey Chart 8500.  |
| BAR: Mbs      | Barometric pressure; prefix all listed<br>values by 10 or by 9 if a minus (-) sign<br>is present to obtain the pressure in whole<br>millibars. |
|               | eg. 02 = 1002 mbs  |
|               | 17 = 1017 mbs  |
|               | -98 =  998 mbs   |
|               | -86 =  986 mbs   |
| WW Code:      | Refer to Table 7, Section II   |
| WIND Amt:     | Wind speed in meters per second  |
| W-1: )        |  |
| ) P           |  |
| ) H           | Waves 1 and 2. Refer to Tables 4&5, Section II   |
| W-2: )        |  |
| CLOUD: T      | Refer to Tables 8&9, Section II  |
| A             |  |



CCGS "ST. CATHARINES" P-67-1

BATHYTHERMOGRAMS



TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | TIME |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|------|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs  | Min |                 |            |            |             | P   | H  | P   | H | I     | A |
| 1         | 50  | 26  | 144  | 56  | 21   | 01  | 67 | 00   | 00  | 4221            | -98        | 02         | 31          | 42  | XX |     |   | 8     | 7 |
| 2         | 50  | 15  | 144  | 59  | 21   | 01  | 67 | 03   | 00  | 4221            | -99        | 85         | 27          | 47  | XX |     |   | 8     | 8 |
| 3         | 50  | 09  | 144  | 58  | 21   | 01  | 67 | 06   | 00  | 4221            | 00         | 26         | 32          | 47  | XX |     |   | 8     | 7 |
| 4         | 50  | 10  | 145  | 03  | 21   | 01  | 67 | 09   | 00  | 4221            | 00         | 02         | 26          | 47  | XX |     |   | 6     | 7 |
| 5         | 50  | 10  | 145  | 15  | 21   | 01  | 67 | 12   | 00  | 4221            | 00         | 26         | 37          | 48  | XX |     |   | 6     | 7 |
| 6         | 50  | 00  | 145  | 04  | 21   | 01  | 67 | 15   | 00  | 4221            | 00         | 02         | 30          | 47  | XX |     |   | 8     | 5 |
| 7         | 49  | 56  | 145  | 04  | 21   | 01  | 67 | 18   | 00  | 4221            | 01         | 02         | 33          | 47  | XX |     |   | 8     | 5 |
| 8         | 50  | 02  | 145  | 13  | 21   | 01  | 67 | 21   | 00  | 4221            | 04         | 02         | 19          | 47  | XX |     |   | 6     | 6 |
| 9         | 50  | 12  | 145  | 20  | 22   | 01  | 67 | 00   | 01  | 4221            | 06         | 02         | 17          | 46  | 44 |     |   | 8     | 3 |
| 10        | 50  | 04  | 145  | 14  | 22   | 01  | 67 | 03   | 00  | 4221            | 05         | 02         | 13          | 46  | XX |     |   | 8     | 6 |
| 11        | 49  | 58  | 145  | 05  | 22   | 01  | 67 | 06   | 00  | 4221            | 05         | 02         | 27          | 46  | XX |     |   | 8     | 5 |
| 12        | 49  | 54  | 144  | 50  | 22   | 01  | 67 | 09   | 00  | 4221            | 05         | 02         | 26          | 46  | XX |     |   | 8     | 5 |
| 13        | 49  | 55  | 144  | 58  | 22   | 01  | 67 | 12   | 00  | 4221            | 05         | 26         | 20          | 45  | XX |     |   | 8     | 7 |
| 14        | 49  | 59  | 145  | 03  | 22   | 01  | 67 | 15   | 00  | 4221            | 05         | 02         | 13          | 44  | XX |     |   | 8     | 3 |
| 15        | 50  | 04  | 145  | 06  | 22   | 01  | 67 | 18   | 00  | 4221            | 06         | 26         | 11          | 32  | 44 |     |   | 6     | 4 |
| 16        | 50  | 06  | 145  | 05  | 22   | 01  | 67 | 21   | 00  | 4221            | 07         | 26         | 07          | 32  | 44 |     |   | 8     | 6 |
| 17        | 49  | 54  | 144  | 58  | 23   | 01  | 67 | 00   | 00  | 4221            | 06         | 02         | 13          | 32  | XX |     |   | 8     | 5 |
| 18        | 49  | 49  | 144  | 55  | 23   | 01  | 67 | 03   | 00  | 4221            | 07         | 26         | 17          | 32  | XX |     |   | 8     | 6 |
| 19        | 49  | 55  | 144  | 50  | 23   | 01  | 67 | 06   | 00  | 4221            | 07         | 86         | 19          | 33  | XX |     |   | 8     | 6 |
| 20        | 49  | 51  | 144  | 52  | 23   | 01  | 67 | 09   | 00  | 4221            | 07         | 26         | 16          | 33  | XX |     |   | 8     | 4 |
| 21        | 49  | 48  | 144  | 52  | 23   | 01  | 67 | 12   | 00  | 4221            | 07         | 26         | 29          | 35  | XX |     |   | 8     | 5 |
| 22        | 49  | 45  | 144  | 55  | 23   | 01  | 67 | 15   | 00  | 4221            | 07         | 02         | 31          | 36  | XX |     |   | 8     | 5 |
| 23        | 49  | 49  | 144  | 58  | 23   | 01  | 67 | 18   | 00  | 4221            | 10         | 85         | 35          | 47  | XX |     |   | 8     | 7 |
| 24        | 50  | 01  | 144  | 57  | 23   | 01  | 67 | 21   | 00  | 4221            | 12         | 80         | 33          | 47  | XX |     |   | 8     | 8 |
| 25        | 50  | 20  | 144  | 45  | 24   | 01  | 67 | 03   | 00  | 4221            | 13         | 27         | 41          | 49  | XX |     |   | 8     | 6 |



TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | I     | A |
| 26        | 50  | 24  | 144  | 41  | 24   | 01  | 67 | 06  | 00  | 4221            | 13         | 15         | 33          | 48  | XX |     |   | 8     | 8 |
| 28        | 50  | 10  | 145  | 00  | 24   | 01  | 67 | 12  | 00  | 4221            | 14         | 02         | 34          | 48  | XX |     |   | 6     | 7 |
| 29        | 50  | 05  | 145  | 02  | 24   | 01  | 67 | 15  | 00  | 4221            | 15         | 27         | 20          | 48  | XX |     |   | 8     | 7 |
| 30        | 49  | 59  | 145  | 06  | 24   | 01  | 67 | 18  | 00  | 4221            | 16         | 02         | 21          | 45  | XX |     |   | 8     | 7 |
| 31        | 49  | 55  | 145  | 07  | 25   | 01  | 67 | 00  | 00  | 4221            | 15         | 02         | 14          | 43  | XX |     |   | 6     | 8 |
| 32        | 49  | 54  | 145  | 07  | 25   | 01  | 67 | 03  | 00  | 4221            | 15         | 85         | 10          | 43  | XX |     |   | 8     | 8 |
| 33        | 49  | 55  | 145  | 08  | 25   | 01  | 67 | 06  | 00  | 4221            | 14         | 85         | 15          | 33  | XX |     |   | 8     | 7 |
| 34        | 49  | 53  | 145  | 10  | 25   | 01  | 67 | 09  | 00  | 4221            | 13         | 02         | 16          | 33  | XX |     |   | 6     | 7 |
| 35        | 49  | 52  | 145  | 14  | 25   | 01  | 67 | 12  | 00  | 4221            | 13         | 02         | 12          | 33  | XX |     |   | 6     | 8 |
| 36        | 49  | 53  | 145  | 14  | 25   | 01  | 67 | 15  | 00  | 4221            | 13         | 71         | 13          | 33  | XX |     |   | 6     | 8 |
| 37        | 49  | 56  | 140  | 04  | 25   | 01  | 67 | 18  | 00  | 4221            | 13         | 01         | 15          | 43  | XX |     |   | 6     | 5 |
| 38        | 49  | 55  | 145  | 08  | 25   | 01  | 67 | 21  | 00  | 4221            | 12         | 01         | 22          | 44  | XX |     |   | 6     | 3 |
| 39        | 49  | 54  | 145  | 11  | 26   | 01  | 67 | 00  | 00  | 4221            | 11         | 02         | 14          | 44  | XX |     |   | 8     | 2 |
| 40        | 49  | 53  | 145  | 13  | 26   | 01  | 67 | 03  | 00  | 4221            | 10         | 02         | 21          | 44  | 33 |     |   | 8     | 2 |
| 41        | 49  | 50  | 145  | 15  | 26   | 01  | 67 | 06  | 00  | 4221            | 10         | 15         | 20          | 34  | 33 |     |   | 8     | 5 |
| 42        | 49  | 51  | 145  | 17  | 26   | 01  | 67 | 09  | 00  | 4221            | 10         | 15         | 18          | 34  | XX |     |   | 8     | 5 |
| 43        | 49  | 56  | 145  | 08  | 26   | 01  | 67 | 12  | 00  | 4221            | 09         | 26         | 21          | 34  | XX |     |   | 6     | 7 |
| 44        | 49  | 57  | 145  | 02  | 26   | 01  | 67 | 15  | 00  | 4221            | 09         | 02         | 17          | 34  | XX |     |   | 6     | 4 |
| 45        | 50  | 00  | 145  | 00  | 26   | 01  | 67 | 18  | 00  | 4221            | 09         | 02         | 18          | 34  | XX |     |   | 8     | 7 |
| 46        | 49  | 59  | 145  | 02  | 26   | 01  | 67 | 21  | 00  | 4221            | 09         | 02         | 21          | 33  | 34 |     |   | 8     | 6 |
| 47        | 49  | 55  | 145  | 07  | 27   | 01  | 67 | 00  | 00  | 4221            | 08         | 02         | 18          | 33  | XX |     |   | 6     | 7 |
| 48        | 49  | 54  | 145  | 08  | 27   | 01  | 67 | 03  | 00  | 4221            | 08         | 02         | 14          | 33  | XX |     |   | 6     | 7 |
| 49        | 49  | 54  | 145  | 09  | 27   | 01  | 67 | 06  | 00  | 4221            | 08         | 02         | 13          | 33  | XX |     |   | 6     | 7 |
| 50        | 49  | 54  | 145  | 10  | 27   | 01  | 67 | 09  | 00  | 4221            | 07         | 02         | 14          | 33  | XX |     |   | 6     | 7 |
| 51        | 49  | 57  | 145  | 08  | 27   | 01  | 67 | 12  | 00  | 4221            | 06         | 02         | 17          | 33  | XX |     |   | 6     | 8 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 52        | 49  | 57  | 145  | 03  | 27   | 01  | 67 | 15  | 00  | 4221            | 05         | 02         | 17          | 33  | XX |     |   | 6     | 7 |
| 53        | 49  | 56  | 145  | 05  | 27   | 01  | 67 | 18  | 00  | 4221            | 04         | 02         | 15          | 33  | XX |     |   | 6     | 8 |
| 54        | 49  | 56  | 145  | 03  | 27   | 01  | 67 | 21  | 00  | 4221            | 03         | 02         | 12          | 33  | XX |     |   | 6     | 8 |
| 55        | 49  | 50  | 145  | 08  | 28   | 01  | 67 | 00  | 00  | 4221            | 01         | 02         | 20          | 34  | XX |     |   | 6     | 7 |
| 57        | 49  | 46  | 145  | 10  | 28   | 01  | 67 | 06  | 00  | 4221            | 00         | 02         | 12          | 33  | XX |     |   | 6     | 7 |
| 58        | 49  | 56  | 145  | 05  | 28   | 01  | 67 | 09  | 00  | 4221            | -99        | 85         | 17          | 33  | XX |     |   | 8     | 8 |
| 59        | 49  | 56  | 145  | 02  | 28   | 01  | 67 | 12  | 00  | 4221            | -97        | 85         | 22          | 34  | XX |     |   | 6     | 8 |
| 60        | 49  | 52  | 144  | 57  | 28   | 01  | 67 | 15  | 00  | 4221            | -95        | 27         | 26          | 35  | XX |     |   | 9     | 5 |
| 61        | 49  | 58  | 145  | 00  | 28   | 01  | 67 | 18  | 00  | 4221            | -95        | 85         | 24          | 35  | XX |     |   | 9     | 7 |
| 62        | 49  | 57  | 144  | 58  | 28   | 01  | 67 | 21  | 00  | 4221            | -95        | 02         | 21          | 44  | 35 |     |   | 8     | 5 |
| 63        | 49  | 52  | 144  | 55  | 29   | 01  | 67 | 00  | 00  | 4221            | -94        | 26         | 24          | 45  | XX |     |   | 8     | 4 |
| 64        | 49  | 54  | 144  | 49  | 29   | 01  | 67 | 03  | 00  | 4221            | -95        | 85         | 15          | 33  | XX |     |   | 8     | 7 |
| 65        | 49  | 53  | 144  | 41  | 29   | 01  | 67 | 06  | 00  | 4221            | -95        | 02         | 18          | 33  | XX |     |   | 8     | 7 |
| 66        | 49  | 55  | 144  | 45  | 29   | 01  | 67 | 09  | 00  | 4221            | -96        | 02         | 23          | 34  | XX |     |   | 6     | 7 |
| 67        | 49  | 59  | 144  | 55  | 29   | 01  | 67 | 12  | 00  | 4221            | -95        | 02         | 27          | 34  | XX |     |   | 6     | 6 |
| 68        | 49  | 52  | 144  | 51  | 29   | 01  | 67 | 15  | 00  | 4221            | -94        | 26         | 21          | 34  | XX |     |   | 6     | 5 |
| 69        | 49  | 56  | 144  | 55  | 29   | 01  | 67 | 18  | 00  | 4221            | -95        | 87         | 27          | 34  | XX |     |   | 8     | 7 |
| 70        | 49  | 58  | 145  | 03  | 29   | 01  | 67 | 21  | 00  | 4221            | -97        | 02         | 33          | 47  | XX |     |   | 8     | 7 |
| 71        | 49  | 57  | 145  | 14  | 30   | 01  | 67 | 00  | 00  | 4221            | -97        | 26         | 27          | 46  | XX |     |   | 6     | 7 |
| 72        | 49  | 53  | 145  | 25  | 30   | 01  | 67 | 03  | 00  | 4221            | -98        | 02         | 30          | 46  | XX |     |   | 8     | 8 |
| 73        | 49  | 54  | 145  | 35  | 30   | 01  | 67 | 06  | 00  | 4221            | 00         | 85         | 25          | 46  | XX |     |   | 6     | 8 |
| 74        | 49  | 57  | 145  | 08  | 30   | 01  | 67 | 09  | 00  | 4221            | 02         | 02         | 26          | 46  | XX |     |   | 6     | 7 |
| 75        | 49  | 54  | 145  | 00  | 30   | 01  | 67 | 15  | 00  | 4221            | 06         | 02         | 28          | 47  | XX |     |   | 6     | 7 |
| 76        | 49  | 56  | 145  | 10  | 30   | 01  | 67 | 18  | 00  | 4221            | 07         | 15         | 19          | 47  | XX |     |   | 8     | 6 |
| 77        | 49  | 58  | 145  | 05  | 30   | 01  | 67 | 21  | 00  | 4221            | 06         | 02         | 11          | 22  | 45 |     |   | 3     | 6 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 78        | 49  | 56  | 145  | 04  | 31   | 01  | 67 | 00  | 00  | 4221            | 02         | 02         | 13          | 22  | XX |     |   | 6     | 8 |
| 79        | 49  | 57  | 145  | 04  | 31   | 01  | 67 | 03  | 00  | 4221            | -97        | 61         | 21          | 47  | XX |     |   | 7     | 8 |
| 80        | 50  | 05  | 145  | 04  | 31   | 01  | 67 | 06  | 00  | 4221            | -91        | 61         | 21          | 46  | XX |     |   | 7     | 8 |
| 81        | 50  | 06  | 145  | 07  | 31   | 01  | 67 | 09  | 00  | 4221            | -86        | 61         | 16          | 35  | XX |     |   | 7     | 8 |
| 82        | 50  | 10  | 145  | 05  | 31   | 01  | 67 | 12  | 00  | 4221            | -84        | 61         | 10          | 22  | XX |     |   | 7     | 8 |
| 83        | 50  | 06  | 145  | 03  | 31   | 01  | 67 | 15  | 00  | 4221            | -86        | 02         | 35          | 49  | XX |     |   | 7     | 8 |
| 84        | 50  | 06  | 145  | 04  | 31   | 01  | 67 | 18  | 00  | 4221            | -92        | 61         | 38          | 49  | XX |     |   | 6     | 8 |
| 85        | 50  | 12  | 145  | 10  | 31   | 01  | 67 | 21  | 00  | 4221            | -96        | 01         | 34          | 49  | XX |     |   | 6     | 7 |
| 86        | 50  | 16  | 145  | 22  | 01   | 02  | 67 | 00  | 00  | 4221            | -96        | 27         | 30          | 49  | XX |     |   | 6     | 6 |
| 87        | 50  | 13  | 145  | 18  | 01   | 02  | 67 | 03  | 00  | 4221            | -97        | 02         | 30          | 49  | XX |     |   | 9     | 5 |
| 88        | 50  | 06  | 145  | 04  | 01   | 02  | 67 | 06  | 00  | 4221            | -97        | 83         | 36          | 49  | XX |     |   | 8     | 6 |
| 89        | 50  | 07  | 145  | 15  | 01   | 02  | 67 | 09  | 00  | 4221            | -97        | 02         | 32          | 49  | XX |     |   | 6     | 7 |
| 90        | 50  | 07  | 145  | 26  | 01   | 02  | 67 | 12  | 00  | 4221            | -94        | 61         | 16          | 47  | XX |     |   | 7     | 8 |
| 91        | 50  | 00  | 145  | 11  | 01   | 02  | 67 | 15  | 00  | 4221            | -91        | 02         | 06          | 20  | 44 |     |   | 6     | 8 |
| 92        | 49  | 57  | 144  | 53  | 01   | 02  | 67 | 18  | 00  | 4221            | -90        | 61         | 21          | 33  | 45 |     |   | 6     | 8 |
| 93        | 50  | 00  | 144  | 55  | 01   | 02  | 67 | 21  | 00  | 4221            | -88        | 58         | 28          | 45  | 34 |     |   | 6     | 8 |
| 94        | 50  | 03  | 145  | 05  | 02   | 02  | 67 | 06  | 00  | 4221            | -90        | 02         | 31          | 47  | XX |     |   | 7     | 8 |
| 95        | 49  | 45  | 145  | 12  | 02   | 02  | 67 | 09  | 00  | 4221            | -92        | 02         | 29          | 46  | XX |     |   | 7     | 8 |
| 96        | 49  | 46  | 145  | 17  | 02   | 02  | 67 | 12  | 00  | 4221            | -94        | 02         | 28          | 46  | XX |     |   | 6     | 5 |
| 97        | 49  | 55  | 145  | 01  | 02   | 02  | 67 | 15  | 00  | 4221            | -96        | 02         | 25          | 35  | XX |     |   | 6     | 5 |
| 99        | 45  | 55  | 145  | 10  | 02   | 02  | 67 | 21  | 00  | 4221            | 01         | 10         | 32          | 47  | XX |     |   | 6     | 7 |
| 100       | 49  | 50  | 145  | 15  | 03   | 02  | 67 | 00  | 00  | 4221            | 03         | 02         | 25          | 48  | XX |     |   | 3     | 7 |
| 101       | 49  | 56  | 144  | 58  | 03   | 02  | 67 | 03  | 00  | 4221            | 03         | 02         | 14          | 33  | 46 |     |   | 7     | 8 |
| 102       | 50  | 05  | 145  | 50  | 03   | 02  | 67 | 06  | 00  | 4221            | 01         | 02         | 19          | 33  | 45 |     |   | 7     | 8 |
| 103       | 50  | 08  | 144  | 50  | 03   | 02  | 67 | 09  | 00  | 4221            | -94        | 02         | 30          | 36  | XX |     |   | 7     | 8 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 104       | 49  | 47  | 145  | 02  | 04   | 02  | 67 | 12  | 00  | 4221            | 19         | 02         | 19          | XX  | XX | 8   | 3 |       |   |
| 105       | 49  | 53  | 144  | 49  | 04   | 02  | 67 | 15  | 00  | 4221            | 20         | 02         | 07          | 21  | 46 | 6   | 3 |       |   |
| 106       | 49  | 54  | 144  | 46  | 04   | 02  | 67 | 18  | 00  | 4221            | 19         | 02         | 17          | 33  | XX | 3   | 8 |       |   |
| 107       | 49  | 55  | 144  | 52  | 04   | 02  | 67 | 21  | 00  | 4221            | 18         | 02         | 17          | 33  | 46 | 7   | 8 |       |   |
| 108       | 50  | 03  | 144  | 56  | 05   | 02  | 67 | 00  | 00  | 4221            | 14         | 61         | 28          | 45  | 44 | 7   | 8 |       |   |
| 109       | 50  | 06  | 144  | 56  | 05   | 02  | 67 | 03  | 00  | 4221            | 13         | 61         | 24          | 45  | 44 | 7   | 6 |       |   |
| 110       | 50  | 09  | 144  | 55  | 05   | 02  | 67 | 06  | 00  | 4221            | 14         | 10         | 09          | 21  | 44 | 7   | 8 |       |   |
| 111       | 50  | 10  | 144  | 55  | 05   | 02  | 67 | 09  | 00  | 4221            | 16         | 02         | 09          | 21  | 44 | 7   | 8 |       |   |
| 112       | 50  | 11  | 144  | 56  | 05   | 02  | 67 | 12  | 00  | 4221            | 16         | 10         | 06          | 32  | XX | 7   | 8 |       |   |
| 113       | 50  | 10  | 144  | 59  | 05   | 02  | 67 | 15  | 00  | 4221            | 15         | 10         | 17          | 33  | 32 | 7   | 8 |       |   |
| 114       | 50  | 00  | 145  | 03  | 05   | 02  | 67 | 18  | 00  | 4221            | 14         | 61         | 16          | 33  | 32 | 7   | 8 |       |   |
| 115       | 50  | 04  | 144  | 56  | 05   | 02  | 67 | 21  | 00  | 4221            | 17         | 02         | 15          | 33  | 33 | 6   | 6 |       |   |
| 116       | 50  | 05  | 144  | 52  | 06   | 02  | 67 | 00  | 00  | 4221            | 18         | 03         | 17          | 33  | XX | 6   | 8 |       |   |
| 117       | 50  | 05  | 144  | 52  | 06   | 02  | 67 | 03  | 00  | 4221            | 21         | 10         | 22          | 34  | XX | 6   | 8 |       |   |
| 118       | 50  | 06  | 144  | 53  | 06   | 02  | 67 | 06  | 00  | 4221            | 22         | 02         | 08          | 21  | 43 | 6   | 3 |       |   |
| 119       | 50  | 10  | 144  | 53  | 06   | 02  | 67 | 09  | 00  | 4221            | 23         | 45         | 16          | 33  | XX | X   | 9 |       |   |
| 120       | 50  | 06  | 144  | 58  | 06   | 02  | 67 | 12  | 00  | 4221            | 20         | 45         | 23          | 34  | XX | X   | 9 |       |   |
| 121       | 50  | 00  | 145  | 00  | 06   | 02  | 67 | 15  | 00  | 4221            | 18         | 51         | 18          | 34  | XX | X   | 9 |       |   |
| 122       | 50  | 00  | 145  | 03  | 06   | 02  | 67 | 18  | 00  | 4221            | 17         | 51         | 22          | 34  | XX | X   | 9 |       |   |
| 123       | 50  | 02  | 145  | 03  | 06   | 02  | 67 | 21  | 00  | 4221            | 17         | 20         | 29          | 45  | XX | 6   | 8 |       |   |
| 124       | 59  | 00  | 145  | 02  | 07   | 02  | 67 | 00  | 00  | 4221            | 16         | 10         | 32          | 45  | 44 | 7   | 8 |       |   |
| 125       | 49  | 54  | 145  | 00  | 07   | 02  | 67 | 03  | 00  | 4221            | 15         | 02         | 32          | 46  | XX | 7   | 8 |       |   |
| 126       | 49  | 48  | 145  | 00  | 07   | 02  | 67 | 06  | 00  | 4221            | 13         | 02         | 35          | 48  | XX | 7   | 8 |       |   |
| 127       | 50  | 00  | 144  | 57  | 07   | 02  | 67 | 09  | 00  | 4221            | 10         | 02         | 36          | 48  | XX | 7   | 8 |       |   |
| 128       | 50  | 09  | 145  | 00  | 07   | 02  | 67 | 18  | 00  | 4221            | 01         | 61         | 29          | 49  | XX | 7   | 8 |       |   |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W - 1 |   | W - 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-------|---|-------|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P     | H | P     | H | T     | A |
| 129       | 50  | 62  | 145  | 00  | 07   | 02  | 67 | 21  | 00  | 4221            | 05         | 02         | 35          | 47    |   | 49    |   | 6     | 6 |
| 130       | 49  | 57  | 145  | 28  | 08   | 02  | 67 | 03  | 00  | 4221            | 15         | 80         | 26          | 45    |   | XX    |   | 8     | 7 |
| 131       | 49  | 56  | 145  | 36  | 08   | 02  | 67 | 06  | 00  | 4221            | 18         | 02         | 17          | 33    |   | XX    |   | 8     | 6 |
| 132       | 49  | 58  | 145  | 15  | 08   | 02  | 67 | 09  | 00  | 4221            | 18         | 02         | 03          | XX    |   | XX    |   | 6     | 6 |
| 133       | 50  | 03  | 144  | 57  | 08   | 02  | 67 | 12  | 00  | 4221            | 17         | 02         | 16          | XX    |   | XX    |   | 6     | 8 |
| 134       | 50  | 01  | 144  | 59  | 08   | 02  | 67 | 15  | 00  | 4221            | 13         | 02         | 19          | 33    |   | XX    |   | 6     | 8 |
| 135       | 50  | 07  | 145  | 03  | 08   | 02  | 67 | 18  | 00  | 4221            | 10         | 61         | 35          | 37    |   | XX    |   | 7     | 8 |
| 136       | 50  | 00  | 144  | 56  | 08   | 02  | 67 | 21  | 00  | 4221            | 06         | 21         | 37          | 31    |   | XX    |   | 7     | 8 |
| 137       | 49  | 56  | 144  | 52  | 09   | 02  | 67 | 00  | 00  | 4221            | 03         | 10         | 30          | 41    |   | XX    |   | 7     | 8 |
| 138       | 49  | 48  | 144  | 46  | 09   | 02  | 67 | 03  | 00  | 4221            | 05         | 10         | 35          | 38    |   | 49    |   | 7     | 8 |
| 139       | 49  | 40  | 144  | 45  | 09   | 02  | 67 | 06  | 00  | 4221            | 06         | 10         | 33          | 38    |   | 49    |   | 6     | 8 |
| 141       | 49  | 50  | 145  | 14  | 10   | 02  | 67 | 03  | 00  | 4221            | 22         | 02         | 20          | 45    |   | 48    |   | 6     | 7 |
| 142       | 49  | 57  | 145  | 03  | 10   | 02  | 67 | 06  | 00  | 4221            | 23         | 02         | 20          | 45    |   | XX    |   | 6     | 7 |
| 143       | 49  | 58  | 144  | 58  | 10   | 02  | 67 | 09  | 00  | 4221            | 20         | 03         | 13          | 33    |   | XX    |   | 6     | 8 |
| 144       | 50  | 00  | 144  | 56  | 10   | 02  | 67 | 12  | 00  | 4221            | 14         | 61         | 23          | 44    |   | XX    |   | 7     | 8 |
| 145       | 49  | 56  | 145  | 02  | 10   | 02  | 67 | 15  | 00  | 4221            | 07         | 61         | 30          | 45    |   | XX    |   | 7     | 8 |
| 146       | 50  | 02  | 145  | 03  | 10   | 02  | 67 | 18  | 00  | 4221            | 07         | 21         | 39          | 35    |   | 44    |   | 7     | 8 |
| 147       | 50  | 00  | 144  | 45  | 10   | 02  | 67 | 21  | 00  | 4221            | 10         | 02         | 35          | 38    |   | XX    |   | 6     | 6 |
| 148       | 49  | 59  | 144  | 48  | 11   | 02  | 67 | 00  | 00  | 4221            | 10         | 02         | 34          | 49    |   | XX    |   | 6     | 7 |
| 149       | 49  | 56  | 144  | 56  | 11   | 02  | 67 | 03  | 00  | 4221            | 11         | 02         | 33          | 37    |   | 48    |   | 6     | 7 |
| 151       | 49  | 55  | 145  | 00  | 11   | 02  | 67 | 15  | 00  | 4221            | 08         | 02         | 29          | 47    |   | XX    |   | 8     | 3 |
| 152       | 49  | 54  | 144  | 52  | 11   | 02  | 67 | 18  | 00  | 4221            | 07         | 61         | 33          | 38    |   | 46    |   | 7     | 8 |
| 153       | 49  | 55  | 144  | 58  | 11   | 02  | 67 | 21  | 00  | 4221            | 05         | 02         | 34          | 49    |   | 46    |   | 8     | 7 |
| 154       | 49  | 42  | 146  | 20  | 12   | 02  | 67 | 18  | 00  | 4221            | 12         | 02         | 37          | 49    |   | XX    |   | 9     | 5 |
| 155       | 49  | 42  | 145  | 45  | 12   | 02  | 67 | 21  | 00  | 4221            | 14         | 02         | 36          | 49    |   | XX    |   | 9     | 3 |



TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 156       | 49  | 54  | 144  | 52  | 13   | 02  | 67 | 06  | 00  | 4221            | 13         | 02         | 28          | 48  | XX |     |   | 8     | 3 |
| 157       | 49  | 55  | 145  | 08  | 13   | 02  | 67 | 09  | 00  | 4221            | 16         | 02         | 29          | 47  | XX |     |   | 8     | 2 |
| 158       | 49  | 58  | 145  | 11  | 13   | 02  | 67 | 12  | 00  | 4221            | 18         | 02         | 32          | 48  | XX |     |   | 8     | 2 |
| 159       | 49  | 58  | 144  | 48  | 13   | 02  | 67 | 15  | 00  | 4221            | 21         | 02         | 26          | 48  | XX |     |   | 8     | 2 |
| 160       | 49  | 57  | 144  | 52  | 13   | 02  | 67 | 18  | 00  | 4221            | 23         | 15         | 32          | 48  | XX |     |   | 8     | 7 |
| 161       | 49  | 58  | 145  | 09  | 13   | 02  | 67 | 21  | 00  | 4221            | 25         | 02         | 27          | 47  | XX |     |   | 8     | 6 |
| 162       | 50  | 03  | 145  | 25  | 14   | 02  | 67 | 00  | 00  | 4221            | 23         | 02         | 26          | 34  | 45 |     |   | 8     | 8 |
| 163       | 50  | 03  | 145  | 04  | 14   | 02  | 67 | 03  | 00  | 4221            | 19         | 61         | 22          | 33  | 45 |     |   | 6     | 8 |
| 164       | 50  | 06  | 145  | 00  | 14   | 02  | 67 | 06  | 00  | 4221            | 17         | 61         | 34          | 47  | XX |     |   | 6     | 8 |
| 165       | 49  | 59  | 145  | 04  | 14   | 02  | 67 | 09  | 00  | 4221            | 16         | 21         | 35          | 49  | XX |     |   | 8     | 3 |
| 166       | 49  | 51  | 145  | 16  | 14   | 02  | 67 | 12  | 00  | 4221            | 17         | 02         | 31          | 48  | XX |     |   | 6     | 8 |
| 167       | 49  | 52  | 145  | 18  | 14   | 02  | 67 | 15  | 00  | 4221            | 16         | 02         | 25          | 47  | XX |     |   | 6     | 8 |
| 168       | 49  | 57  | 145  | 03  | 14   | 02  | 67 | 18  | 00  | 4221            | 17         | 10         | 30          | 48  | XX |     |   | 6     | 8 |
| 169       | 49  | 59  | 145  | 13  | 14   | 02  | 67 | 21  | 00  | 4221            | 18         | 10         | 30          | 49  | XX |     |   | 6     | 8 |
| 170       | 50  | 01  | 145  | 22  | 15   | 02  | 67 | 00  | 00  | 4221            | 18         | 02         | 27          | 48  | XX |     |   | 7     | 8 |
| 171       | 50  | 02  | 145  | 16  | 15   | 02  | 67 | 03  | 00  | 4221            | 17         | 10         | 23          | 47  | XX |     |   | 7     | 8 |
| 172       | 50  | 05  | 145  | 08  | 15   | 02  | 67 | 06  | 00  | 4221            | 17         | 02         | 22          | 46  | XX |     |   | 7     | 8 |
| 173       | 50  | 03  | 145  | 10  | 15   | 02  | 67 | 09  | 00  | 4221            | 15         | 51         | 17          | 33  | 45 |     |   | 7     | 8 |
| 174       | 50  | 04  | 144  | 46  | 15   | 02  | 67 | 12  | 00  | 4221            | 14         | 61         | 20          | 45  | XX |     |   | 7     | 8 |
| 175       | 50  | 05  | 144  | 40  | 15   | 02  | 67 | 15  | 00  | 4221            | 14         | 61         | 30          | 46  | XX |     |   | 7     | 8 |
| 176       | 50  | 00  | 144  | 58  | 15   | 02  | 67 | 18  | 00  | 4221            | 15         | 10         | 23          | 46  | XX |     |   | 7     | 8 |
| 177       | 49  | 59  | 145  | 01  | 15   | 02  | 67 | 21  | 00  | 4221            | 16         | 47         | 17          | 45  | XX |     |   | X     | 9 |
| 178       | 50  | 03  | 144  | 56  | 16   | 02  | 67 | 00  | 00  | 4221            | 16         | 28         | 15          | 44  | 55 |     |   | 7     | 8 |
| 179       | 50  | 04  | 144  | 55  | 16   | 02  | 67 | 03  | 00  | 4221            | 14         | 61         | 13          | 32  | 45 |     |   | 7     | 8 |
| 180       | 49  | 58  | 144  | 55  | 16   | 02  | 67 | 06  | 00  | 4221            | 13         | 61         | 13          | 32  | XX |     |   | 7     | 8 |

TABLE I

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 181       | 50  | 03  | 144  | 52  | 16   | 02  | 67 | 09  | 00  | 4221            | 12         | 51         | 22          | 45  |   | XX  |   | 7     | 8 |
| 182       | 49  | 58  | 145  | 02  | 16   | 02  | 67 | 12  | 00  | 4221            | 09         | 44         | 25          | 45  |   | 44  |   | 7     | 8 |
| 183       | 50  | 01  | 144  | 58  | 16   | 02  | 67 | 15  | 00  | 4221            | 06         | 58         | 23          | 45  |   | 44  |   | 7     | 8 |
| 184       | 50  | 00  | 145  | 00  | 16   | 02  | 67 | 18  | 00  | 4221            | 05         | 51         | 28          | 45  |   | 44  |   | X     | 9 |
| 185       | 50  | 03  | 144  | 55  | 16   | 02  | 67 | 21  | 00  | 4221            | 05         | 45         | 28          | 45  |   | 44  |   | X     | 9 |
| 186       | 49  | 57  | 145  | 52  | 17   | 02  | 67 | 00  | 00  | 4221            | 02         | 45         | 20          | 45  |   | 44  |   | X     | 9 |
| 187       | 49  | 56  | 145  | 06  | 17   | 02  | 67 | 03  | 00  | 4221            | 07         | 61         | 28          | 35  |   | 45  |   | 7     | 8 |
| 188       | 49  | 58  | 144  | 55  | 17   | 02  | 67 | 06  | 00  | 4221            | 11         | 02         | 35          | 47  |   | XX  |   | 8     | 4 |
| 189       | 50  | 00  | 145  | 02  | 17   | 02  | 67 | 09  | 00  | 4221            | 15         | 02         | 33          | 47  |   | XX  |   | 8     | 2 |
| 190       | 50  | 09  | 145  | 32  | 18   | 02  | 67 | 00  | 00  | 4221            | 26         | 02         | 21          | 35  |   | 37  |   | 0     | 4 |
| 191       | 50  | 03  | 145  | 10  | 18   | 02  | 67 | 03  | 00  | 4221            | 27         | 02         | 25          | 36  |   | 47  |   | 6     | 6 |
| 192       | 50  | 01  | 144  | 55  | 18   | 02  | 67 | 06  | 00  | 4221            | 29         | 03         | 21          | 35  |   | XX  |   | 7     | 7 |
| 193       | 49  | 59  | 145  | 10  | 18   | 02  | 67 | 09  | 00  | 4221            | 29         | 03         | 15          | 44  |   | XX  |   | 6     | 8 |
| 194       | 49  | 58  | 145  | 23  | 18   | 02  | 67 | 12  | 00  | 4221            | 28         | 01         | 13          | 44  |   | XX  |   | 6     | 6 |
| 195       | 49  | 58  | 145  | 05  | 18   | 02  | 67 | 15  | 00  | 4221            | 27         | 02         | 19          | 33  |   | 44  |   | 6     | 7 |
| 196       | 50  | 03  | 145  | 00  | 18   | 02  | 67 | 18  | 00  | 4221            | 25         | 02         | 22          | 33  |   | 44  |   | 7     | 8 |
| 197       | 50  | 05  | 145  | 00  | 18   | 02  | 67 | 21  | 00  | 4221            | 23         | 61         | 26          | 35  |   | 44  |   | 7     | 8 |
| 198       | 50  | 09  | 144  | 58  | 19   | 02  | 67 | 00  | 00  | 4221            | 19         | 51         | 26          | 36  |   | 44  |   | X     | 9 |
| 199       | 50  | 01  | 144  | 58  | 19   | 02  | 67 | 03  | 00  | 4221            | 18         | 51         | 27          | 36  |   | 45  |   | 7     | 8 |
| 200       | 50  | 02  | 144  | 59  | 19   | 02  | 67 | 06  | 00  | 4221            | 16         | 61         | 16          | 35  |   | 44  |   | 7     | 8 |
| 201       | 50  | 05  | 145  | 02  | 19   | 02  | 67 | 09  | 00  | 4221            | 14         | 61         | 15          | 34  |   | 44  |   | 7     | 8 |
| 202       | 50  | 08  | 144  | 57  | 19   | 02  | 67 | 12  | 00  | 4221            | 12         | 61         | 12          | 33  |   | XX  |   | 7     | 8 |
| 203       | 50  | 07  | 144  | 55  | 19   | 02  | 67 | 15  | 00  | 4221            | 14         | 61         | 24          | 36  |   | XX  |   | 6     | 8 |
| 204       | 50  | 05  | 144  | 55  | 19   | 02  | 67 | 18  | 00  | 4221            | 19         | 02         | 30          | 36  |   | 44  |   | 6     | 8 |
| 205       | 50  | 13  | 145  | 04  | 19   | 02  | 67 | 21  | 00  | 4221            | 22         | 02         | 21          | 35  |   | 44  |   | 6     | 7 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | I     | A |
| 206       | 50  | 02  | 145  | 15  | 20   | 02  | 67 | 12  | 00  | 4221            | 28         | 02         | 06          | 21  | 33 | 0   | 0 |       |   |
| 207       | 50  | 01  | 145  | 09  | 20   | 02  | 67 | 15  | 00  | 4221            | 27         | 03         | 18          | 22  | XX | 6   | 2 |       |   |
| 208       | 50  | 00  | 145  | 00  | 20   | 02  | 67 | 18  | 00  | 4221            | 25         | 02         | 21          | 23  | 54 | 0   | 6 |       |   |
| 209       | 50  | 02  | 145  | 04  | 20   | 02  | 67 | 21  | 00  | 4221            | 25         | 02         | 18          | 23  | 53 | 2   | 8 |       |   |
| 210       | 50  | 03  | 145  | 02  | 21   | 02  | 67 | 00  | 00  | 4221            | 20         | 02         | 26          | 35  | XX | 6   | 8 |       |   |
| 211       | 50  | 08  | 145  | 12  | 21   | 02  | 67 | 03  | 00  | 4221            | 14         | 61         | 29          | 36  | XX | 7   | 8 |       |   |
| 212       | 50  | 05  | 145  | 04  | 21   | 02  | 67 | 06  | 00  | 4221            | 10         | 61         | 30          | 37  | XX | 7   | 8 |       |   |
| 213       | 50  | 02  | 144  | 52  | 21   | 02  | 67 | 09  | 00  | 4221            | 08         | 61         | 28          | 35  | 36 | 7   | 8 |       |   |
| 214       | 49  | 53  | 144  | 52  | 21   | 02  | 67 | 12  | 00  | 4221            | 08         | 61         | 30          | 37  | XX | 7   | 8 |       |   |
| 215       | 49  | 53  | 145  | 05  | 21   | 02  | 67 | 15  | 00  | 4221            | 12         | 61         | 28          | 37  | XX | 7   | 8 |       |   |
| 216       | 49  | 50  | 145  | 20  | 21   | 02  | 67 | 18  | 00  | 4221            | 13         | 02         | 22          | 36  | 44 | 6   | 6 |       |   |
| 217       | 49  | 53  | 145  | 05  | 21   | 02  | 67 | 21  | 00  | 4221            | 15         | 02         | 20          | 36  | 43 | 6   | 7 |       |   |
| 218       | 49  | 55  | 144  | 53  | 22   | 02  | 67 | 00  | 00  | 4221            | 16         | 02         | 27          | 36  | XX | 6   | 4 |       |   |
| 219       | 49  | 57  | 144  | 58  | 22   | 02  | 67 | 03  | 00  | 4221            | 18         | 02         | 26          | 48  | XX | 6   | 7 |       |   |
| 220       | 49  | 58  | 145  | 07  | 22   | 02  | 67 | 06  | 00  | 4221            | 18         | 01         | 18          | 36  | XX | 6   | 5 |       |   |
| 221       | 50  | 02  | 145  | 15  | 22   | 02  | 67 | 09  | 00  | 4221            | 18         | 03         | 12          | 44  | XX | 6   | 7 |       |   |
| 224       | 50  | 04  | 144  | 55  | 22   | 02  | 67 | 18  | 00  | 4221            | 14         | 02         | 10          | 21  | 43 | 6   | 8 |       |   |
| 226       | 50  | 03  | 144  | 56  | 22   | 02  | 67 | 21  | 00  | 4221            | 13         | 26         | 12          | 21  | 43 | 8   | 8 |       |   |
| 227       | 50  | 03  | 144  | 58  | 23   | 02  | 67 | 00  | 00  | 4221            | 11         | 80         | 20          | 34  | XX | 8   | 8 |       |   |
| 228       | 50  | 01  | 145  | 02  | 23   | 02  | 67 | 03  | 00  | 4221            | 10         | 02         | 22          | 35  | 44 | 6   | 8 |       |   |
| 229       | 49  | 58  | 145  | 06  | 23   | 02  | 67 | 06  | 00  | 4221            | 10         | 25         | 35          | 36  | XX | 6   | 7 |       |   |
| 230       | 50  | 05  | 145  | 01  | 23   | 02  | 67 | 09  | 00  | 4221            | 11         | 02         | 37          | 38  | XX | 8   | 6 |       |   |
| 231       | 49  | 59  | 145  | 04  | 23   | 02  | 67 | 18  | 00  | 4221            | 12         | 85         | 35          | 32  | XX | 8   | 8 |       |   |
| 232       | 50  | 10  | 145  | 17  | 24   | 02  | 67 | 15  | 00  | 4221            | 08         | 02         | 22          | 48  | XX | 8   | 6 |       |   |
| 233       | 50  | 02  | 145  | 05  | 24   | 02  | 67 | 18  | 00  | 4221            | 08         | 85         | 28          | 35  | 46 | 8   | 7 |       |   |

TABLE 1

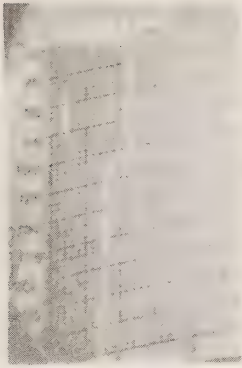
| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
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| 235       | 50  | 05  | 145  | 12  | 25   | 02  | 67 | 00  | 00  | 4221            | 04         | 15         | 11          | 22  | 44 | 6   | 8 |       |   |
| 236       | 50  | 02  | 144  | 57  | 25   | 02  | 67 | 03  | 00  | 4221            | 01         | 26         | 09          | 22  | 44 | 6   | 8 |       |   |
| 237       | 50  | 01  | 144  | 53  | 35   | 02  | 67 | 06  | 00  | 4221            | -98        | 26         | 14          | 22  | 44 | 8   | 8 |       |   |
| 238       | 50  | 08  | 144  | 57  | 25   | 02  | 67 | 09  | 00  | 4221            | -92        | 61         | 21          | 33  | XX | 7   | 8 |       |   |
| 239       | 50  | 10  | 145  | 00  | 25   | 02  | 67 | 12  | 00  | 4221            | -86        | 61         | 24          | 44  | XX | 7   | 8 |       |   |
| 240       | 50  | 11  | 144  | 59  | 25   | 02  | 67 | 15  | 00  | 4221            | -84        | 21         | 12          | 33  | XX | 8   | 8 |       |   |
| 241       | 50  | 01  | 144  | 59  | 25   | 02  | 67 | 18  | 00  | 4221            | -83        | 02         | 15          | 33  | 34 | 6   | 7 |       |   |
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| 243       | 50  | 07  | 144  | 58  | 26   | 02  | 67 | 00  | 00  | 4221            | -74        | 61         | 13          | 33  | 44 | 7   | 8 |       |   |
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| 245       | 49  | 52  | 144  | 53  | 26   | 02  | 67 | 06  | 00  | 4221            | -74        | 03         | 30          | 46  | XX | 6   | 8 |       |   |
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| 247       | 49  | 50  | 145  | 03  | 26   | 02  | 67 | 12  | 00  | 4221            | -77        | 03         | 18          | 46  | XX | 6   | 7 |       |   |
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| 251       | 49  | 50  | 142  | 20  | 27   | 02  | 67 | 18  | 00  | 3910            | 03         | 15         | 30          | 49  | XX | 6   | 7 |       |   |
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| 253       | 49  | 54  | 141  | 40  | 27   | 02  | 67 | 23  | 40  | 3970            | 07         | 02         | 26          | 47  | XX | 6   | 8 |       |   |
| 254       | 49  | 41  | 140  | 40  | 28   | 02  | 67 | 02  | 30  | 3881            |            |            |             |     |    |     |   |       |   |
| 255       | 49  | 37  | 139  | 40  | 28   | 02  | 67 | 05  | 30  | 3840            |            |            |             |     |    |     |   |       |   |
| 256       | 49  | 34  | 138  | 40  | 28   | 02  | 67 | 08  | 30  | 3890            |            |            |             |     |    |     |   |       |   |
| 257       | 49  | 30  | 137  | 40  | 28   | 02  | 67 | 11  | 45  | 3850            | 12         | 02         | 25          | 59  | XX | 8   | 6 |       |   |
| 258       | 49  | 26  | 136  | 40  | 28   | 02  | 67 | 14  | 48  | 3775            | 13         | 02         | 24          | 22  | XX | 8   | 6 |       |   |
| 259       | 49  | 21  | 135  | 40  | 28   | 02  | 67 | 18  | 00  | 3200            | 12         | 28         | 24          | 22  | XX | 6   | 7 |       |   |
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TABLE 1

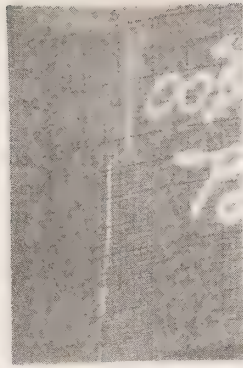
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|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|--------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |              | P   | H  | P   | H | T     | A |
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| 263       | 49  | 07  | 131  | 40  | 01   | 03  | 67 | 07  | 00  | 2875            | 15         | 02         | 10           | 21  | XX |     |   | 8     | 7 |
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| 265       | 48  | 56  | 129  | 40  | 01   | 03  | 67 | 12  | 30  | 2601            | 15         | 02         | 12           | 10  | 05 |     |   | 4     | 4 |
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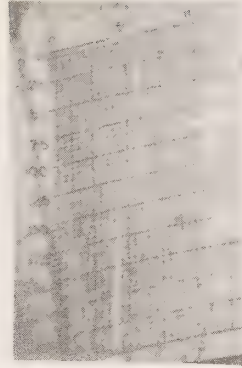




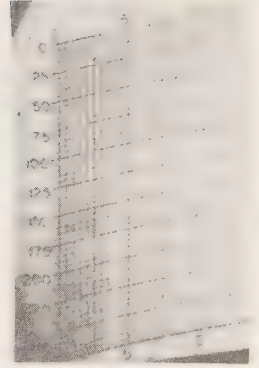
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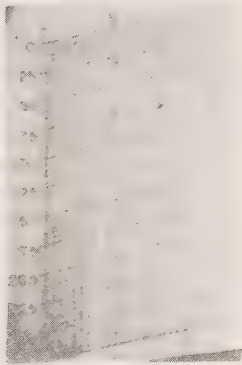
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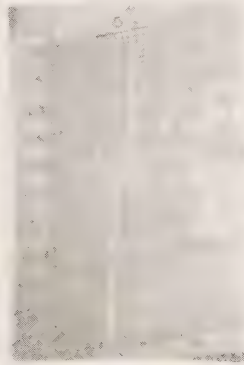
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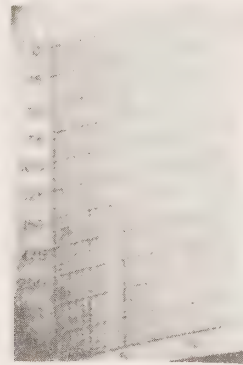
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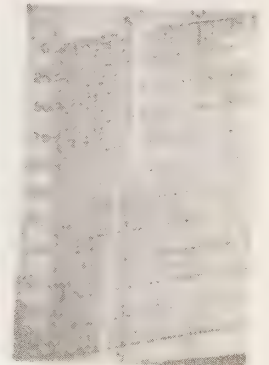
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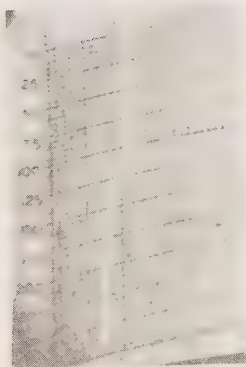
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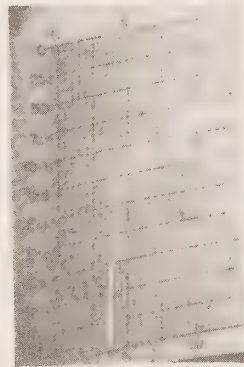
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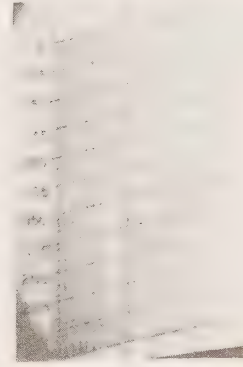
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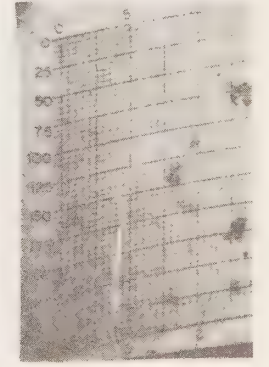
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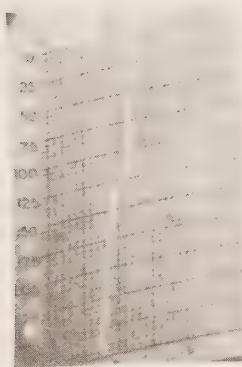
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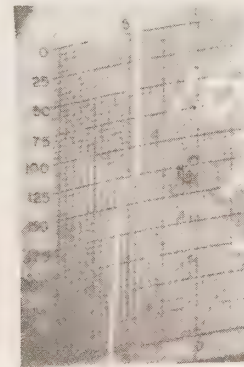
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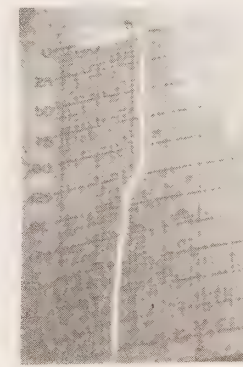
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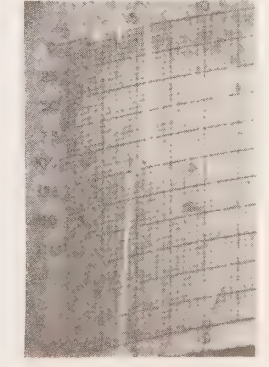
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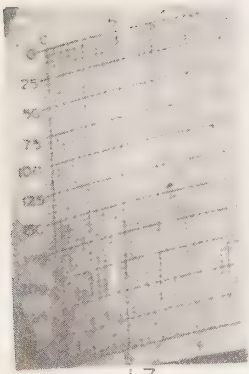
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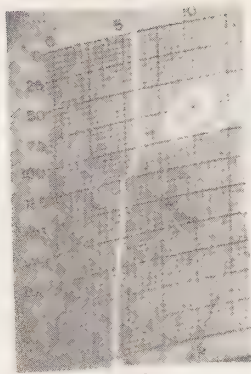
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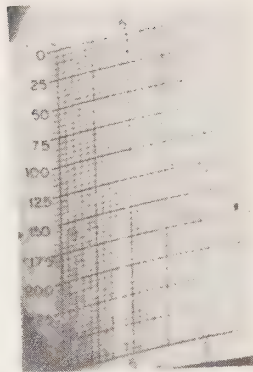
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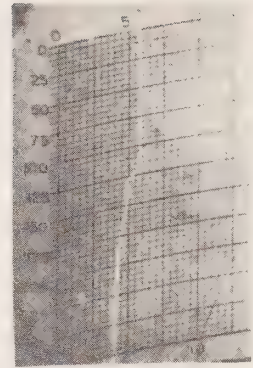
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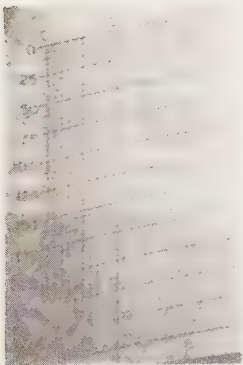
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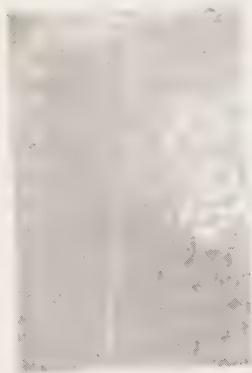
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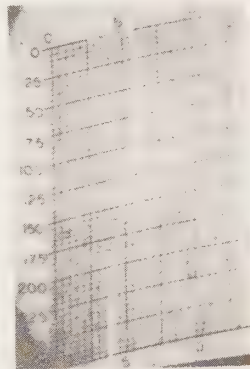
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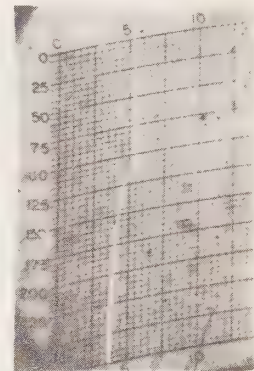
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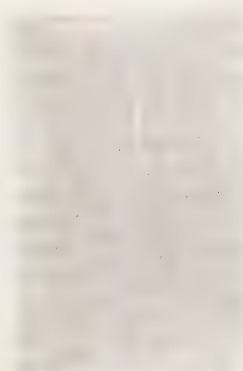
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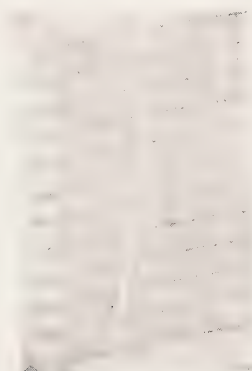
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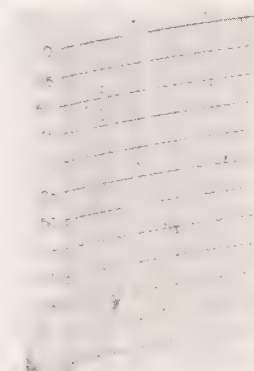
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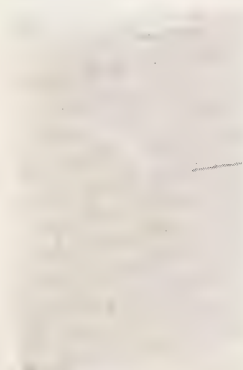
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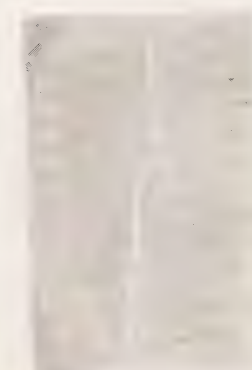
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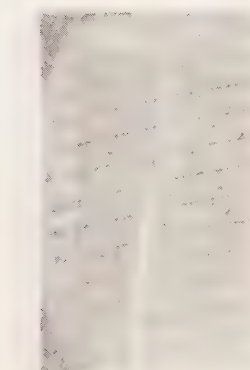
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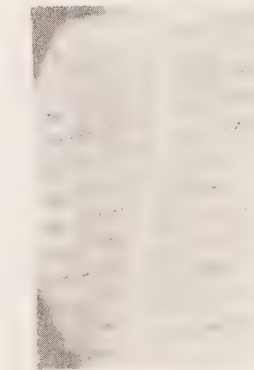
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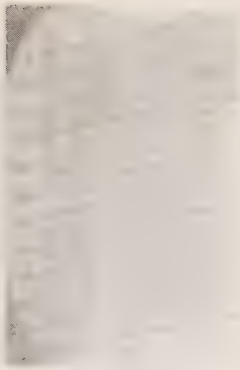


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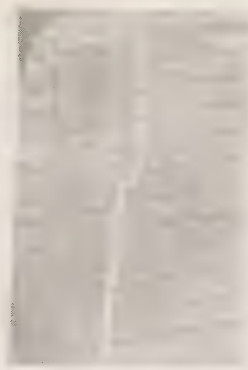


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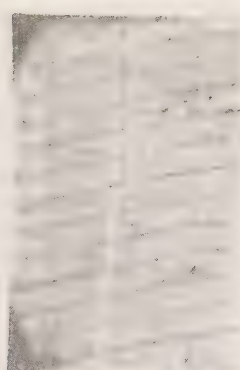




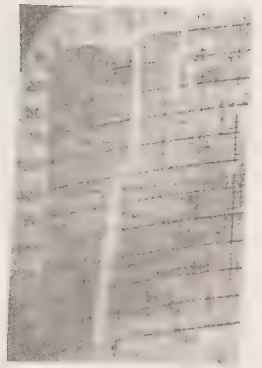
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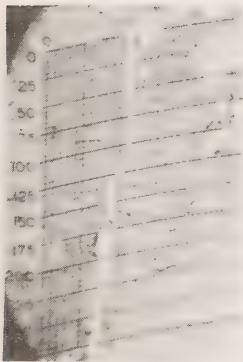
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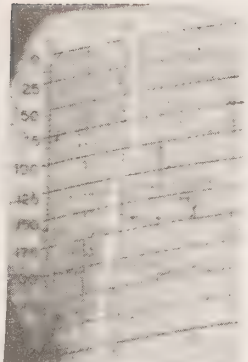
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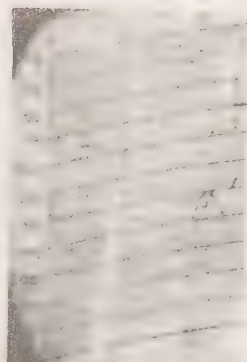
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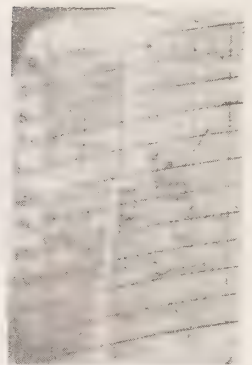
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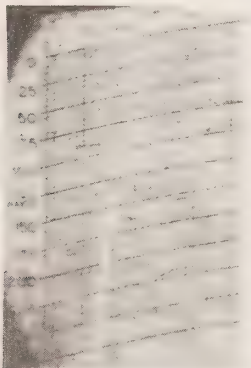
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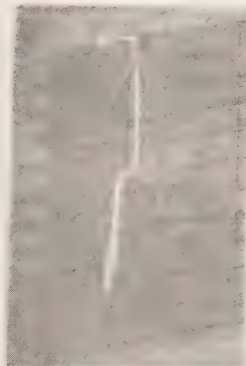
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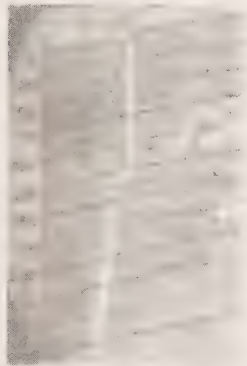
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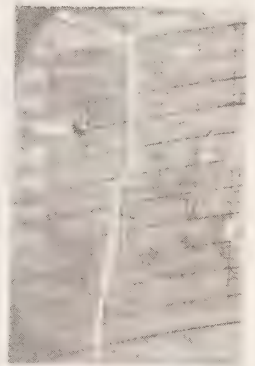
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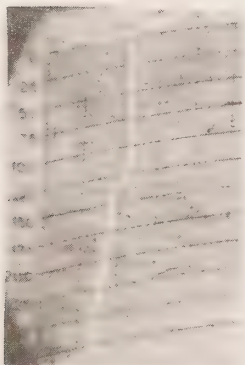
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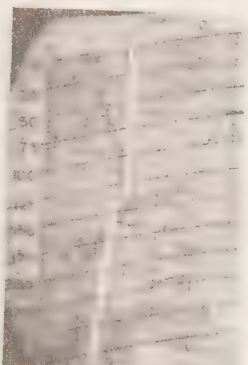
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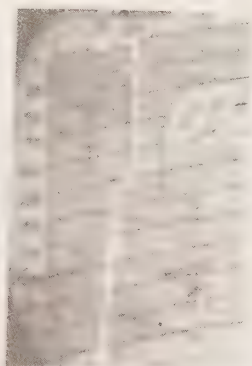
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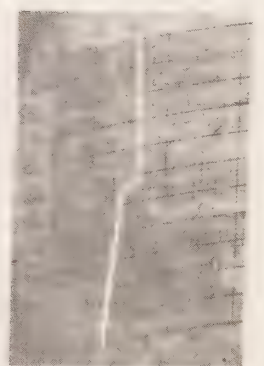
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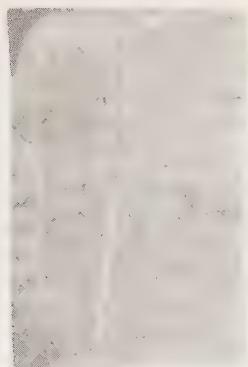
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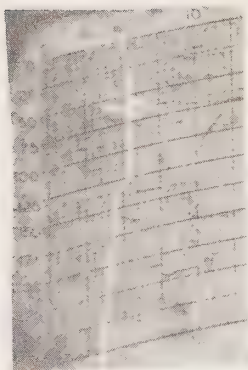
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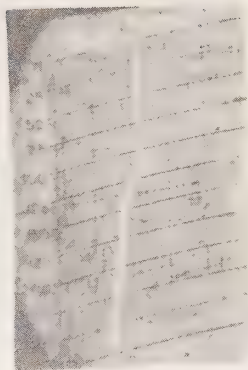
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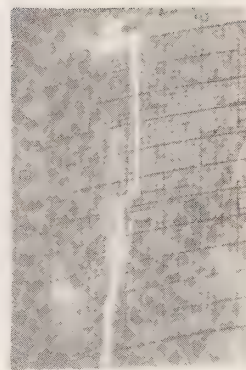
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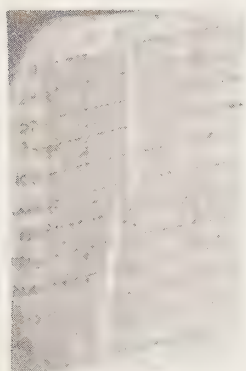
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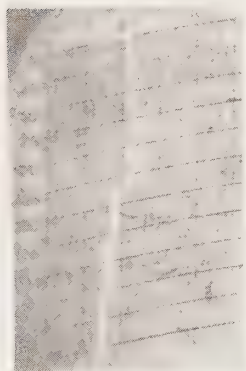
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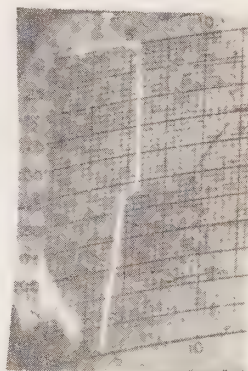
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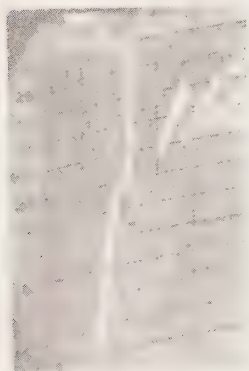
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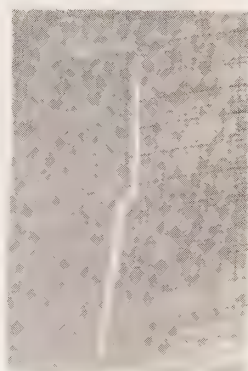
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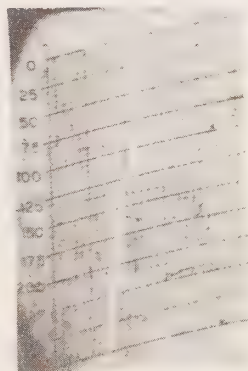
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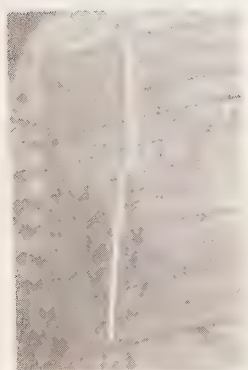
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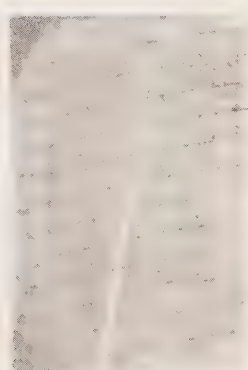
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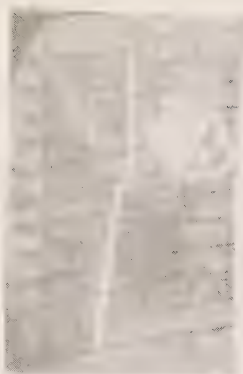


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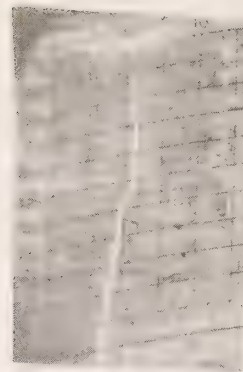
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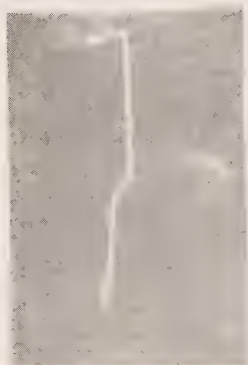
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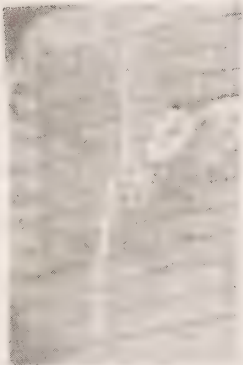
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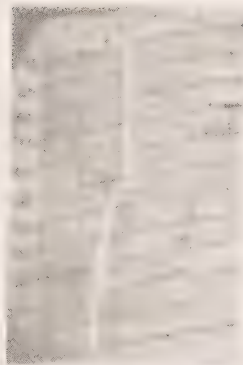
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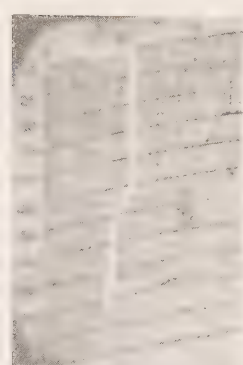
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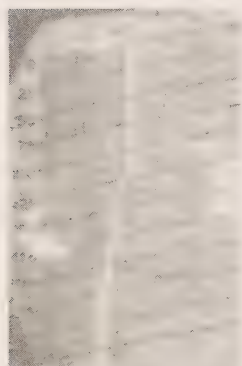
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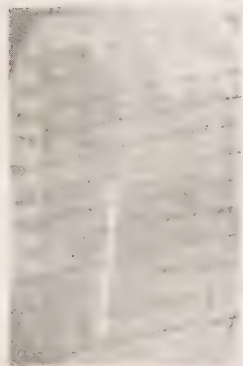
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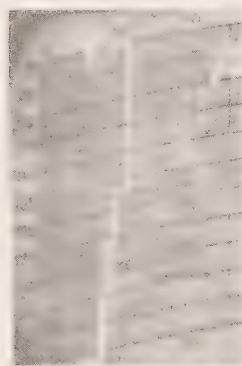
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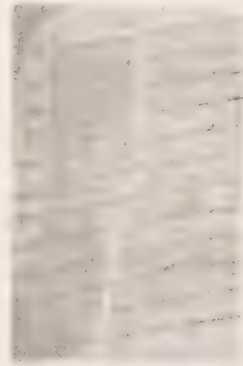
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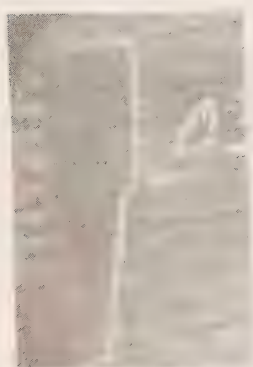
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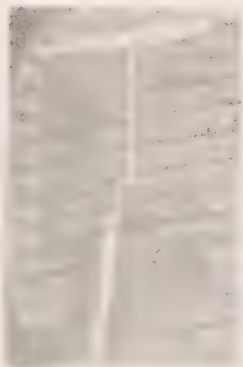
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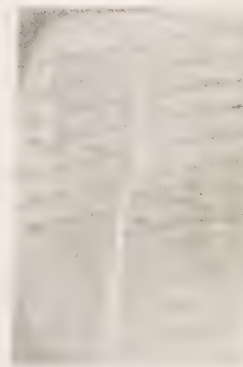
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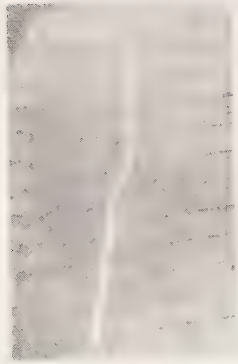
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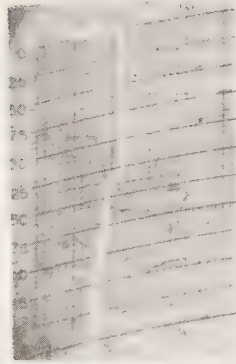
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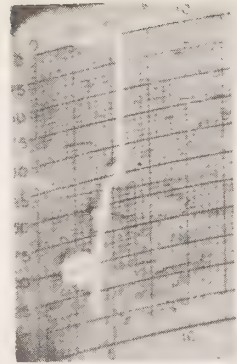
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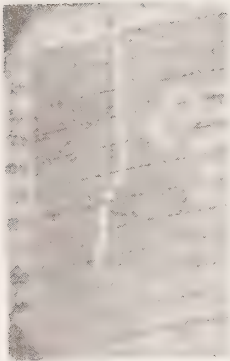
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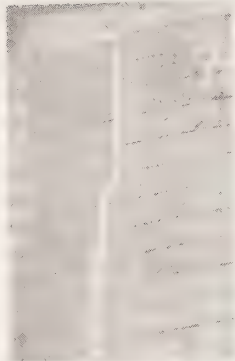
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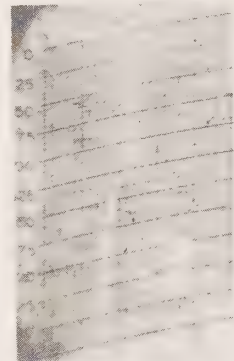
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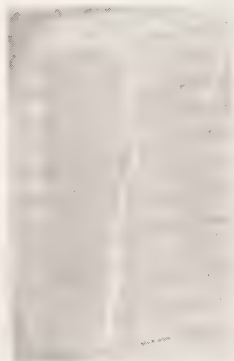
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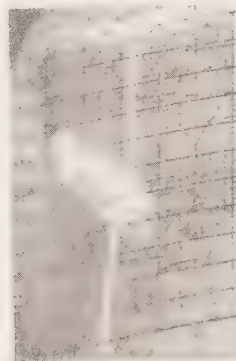
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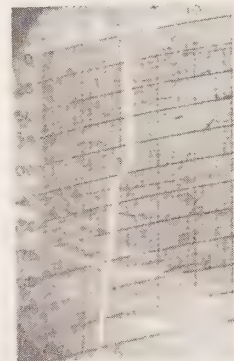
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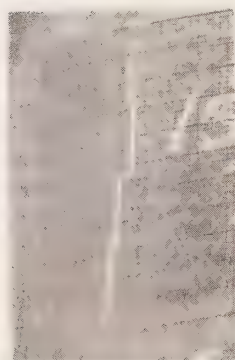
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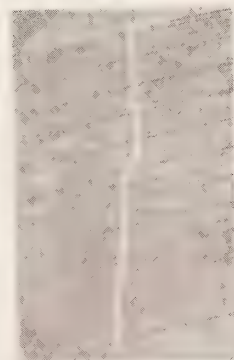
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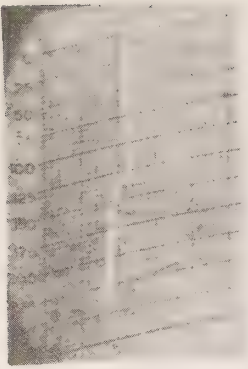
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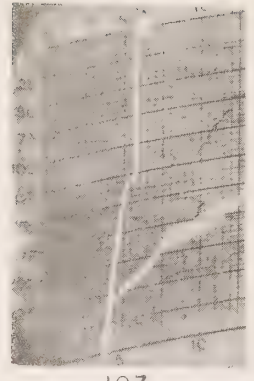
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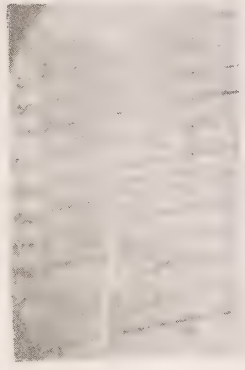
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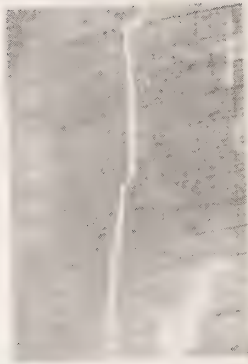




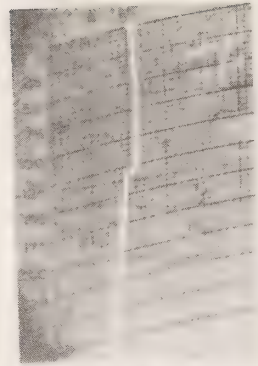
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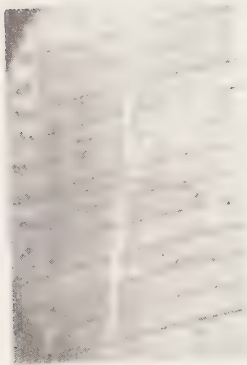
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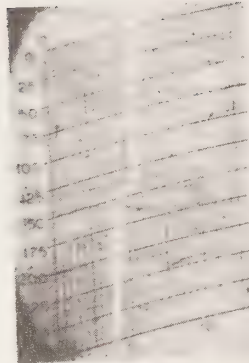
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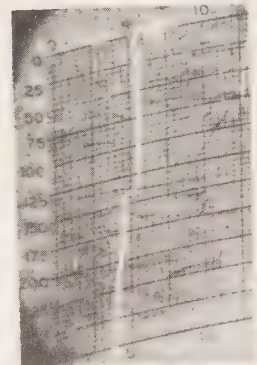
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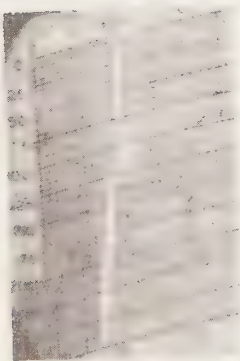
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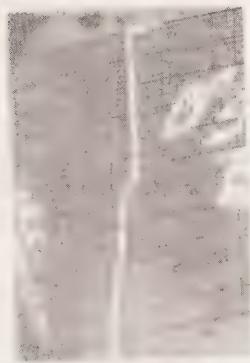
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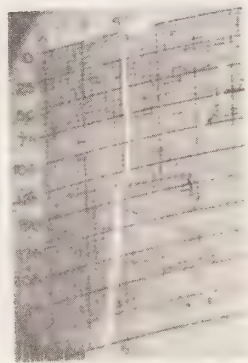
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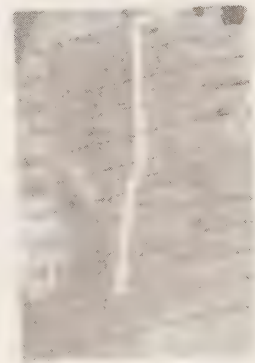
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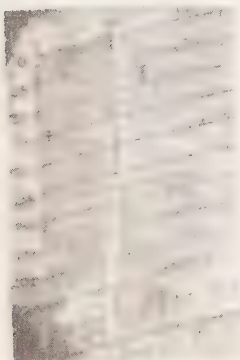
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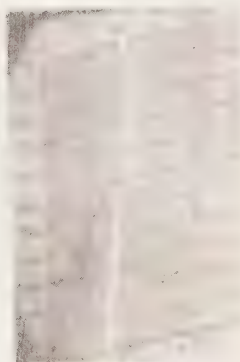
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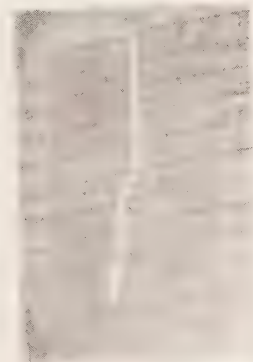
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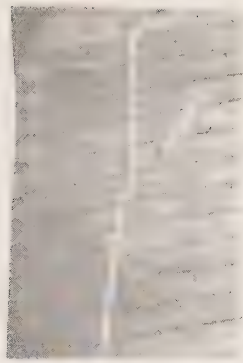
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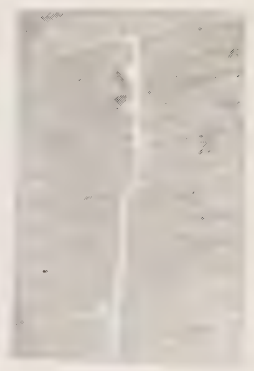
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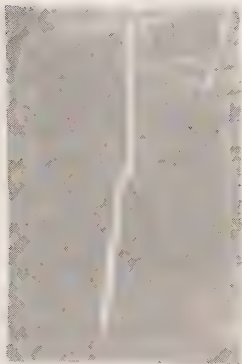
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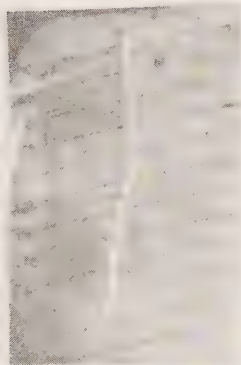
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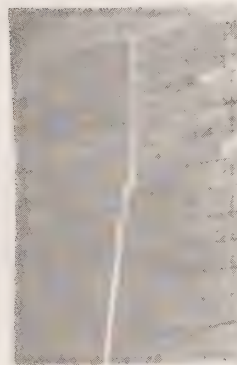
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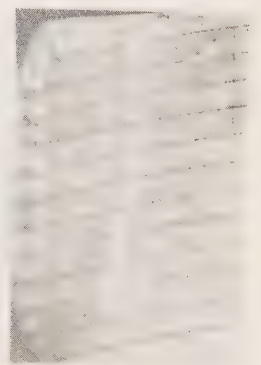
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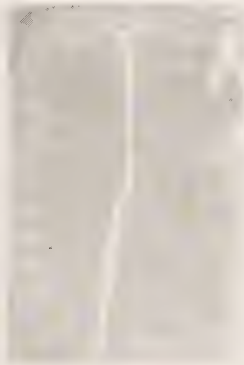
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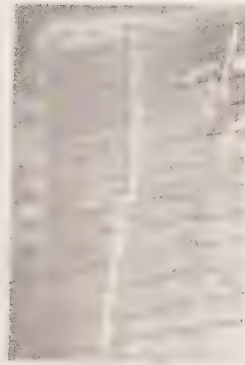
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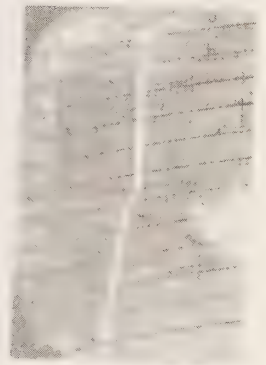
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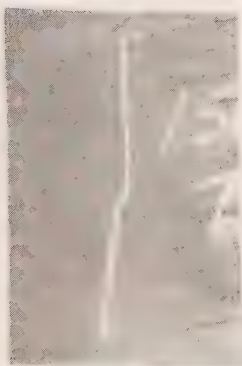
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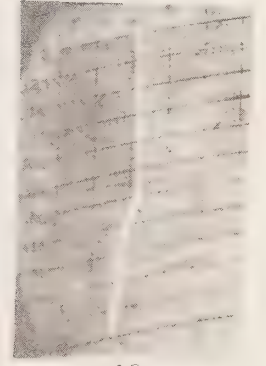
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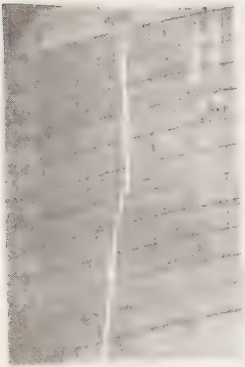


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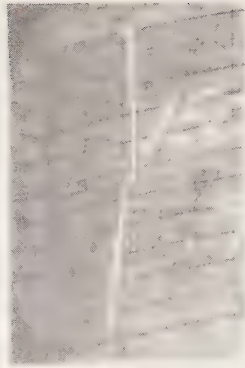


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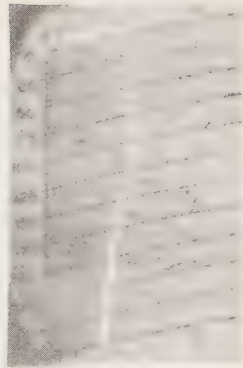




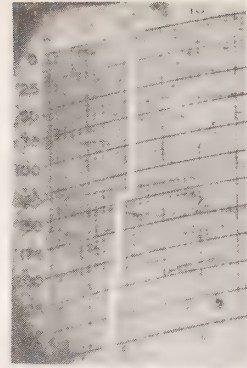
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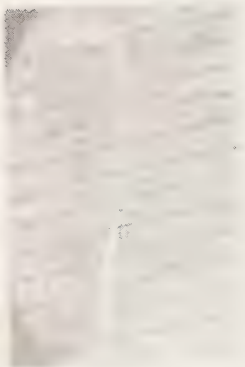
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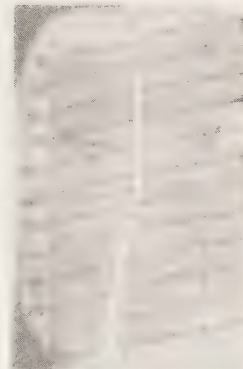
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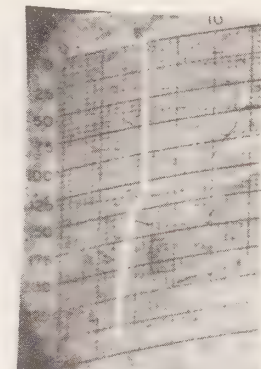
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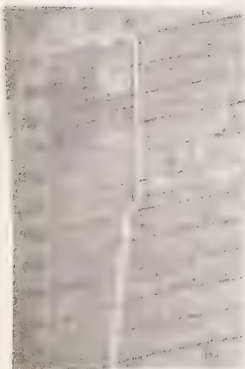
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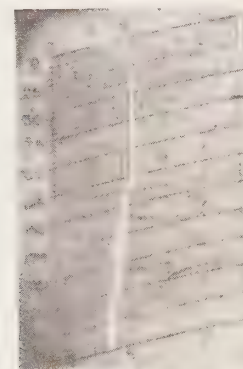
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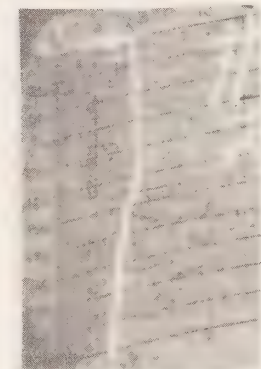
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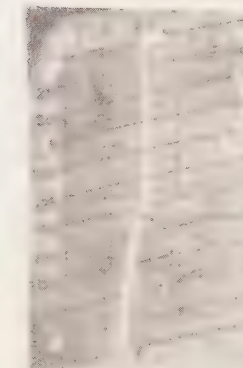
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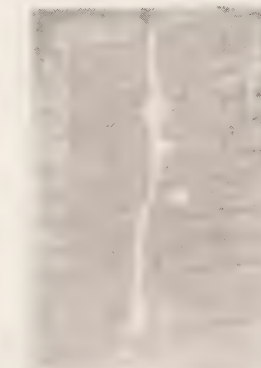
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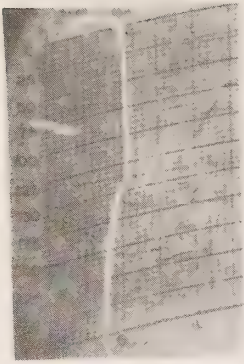
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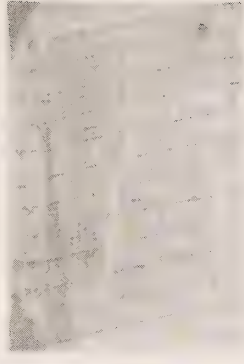
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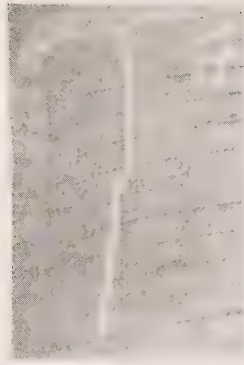
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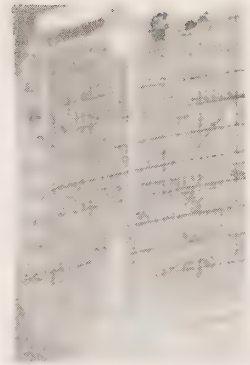
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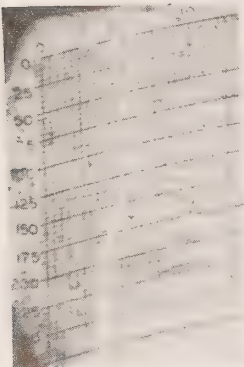
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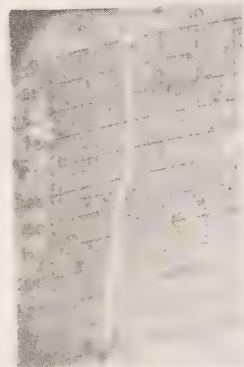
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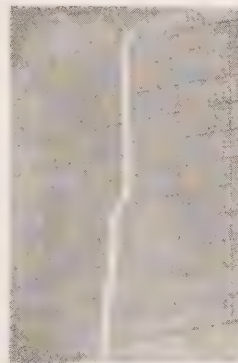
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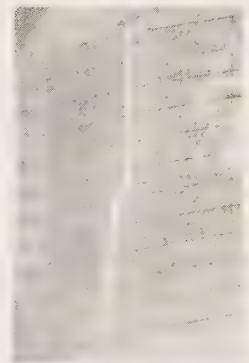
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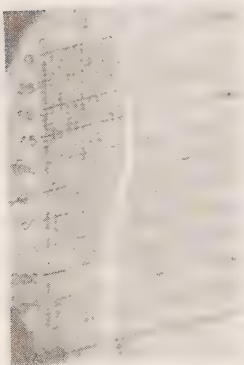
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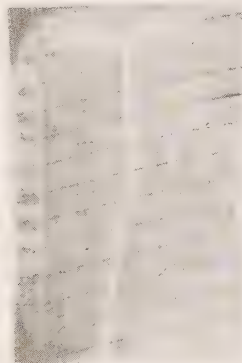
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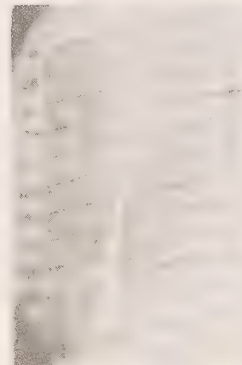
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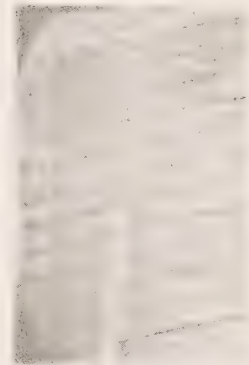
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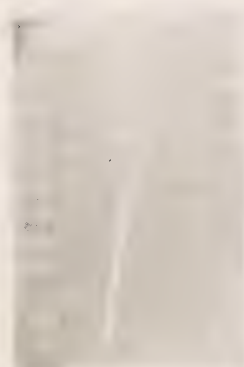
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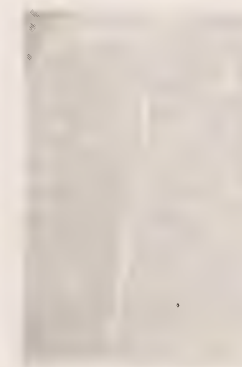
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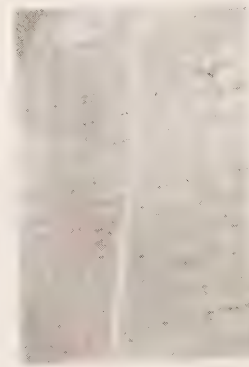
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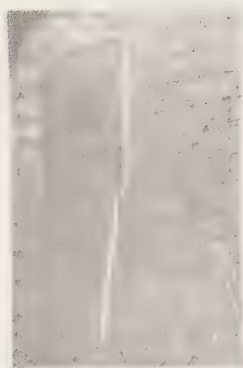
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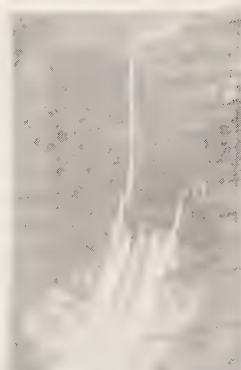
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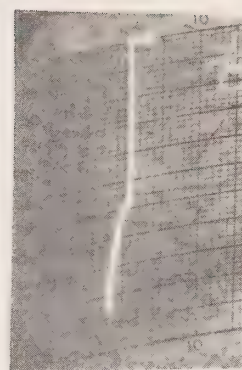
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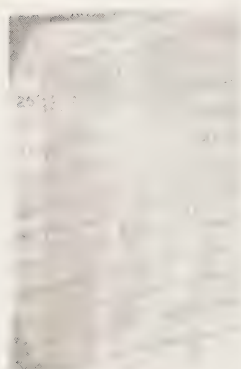
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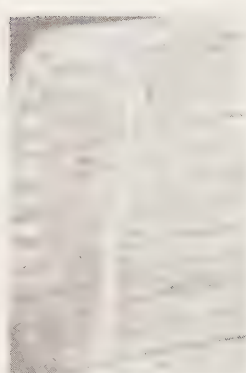
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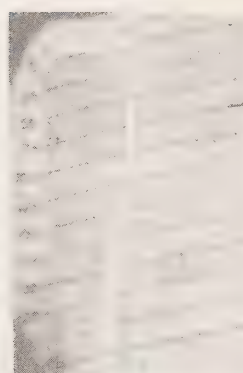
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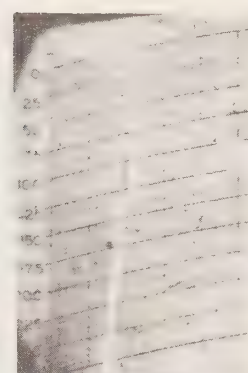
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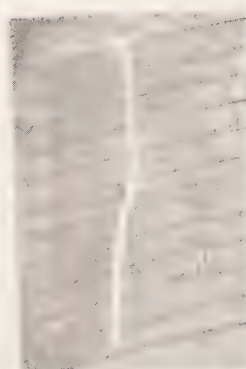
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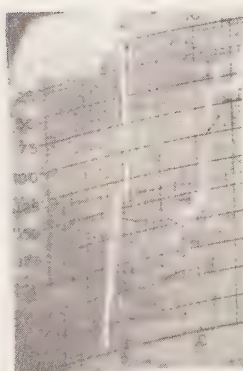
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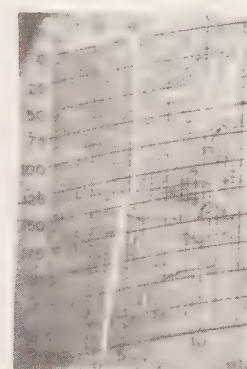
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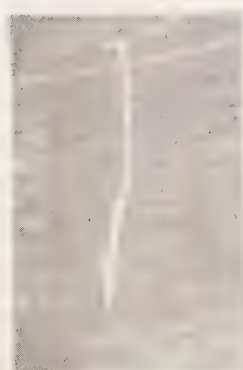
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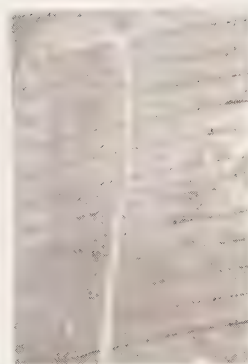
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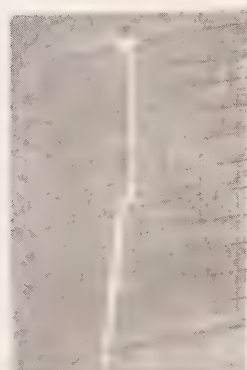
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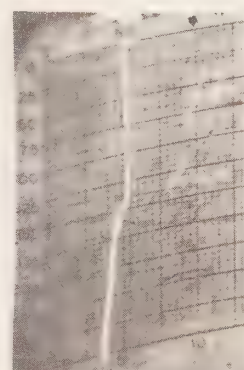
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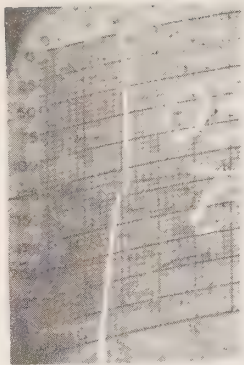


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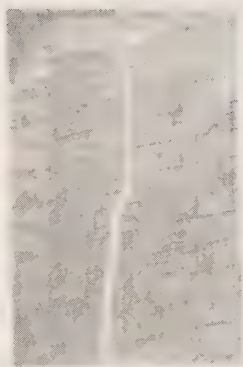




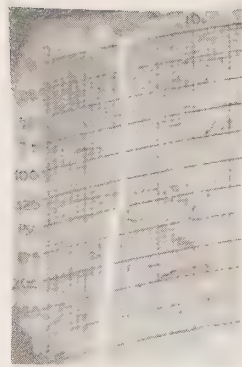
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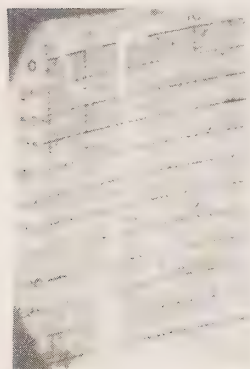
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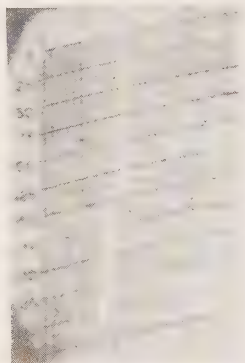
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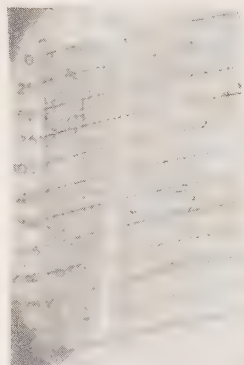
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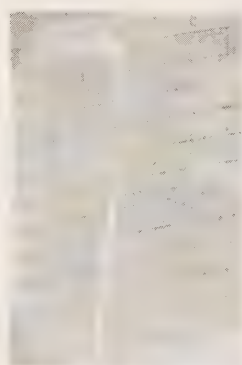
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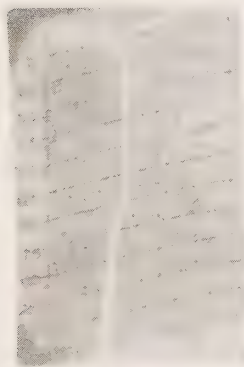
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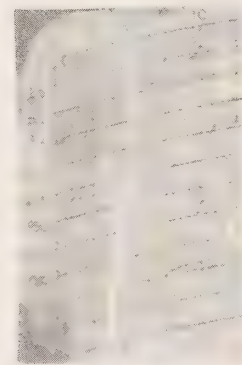
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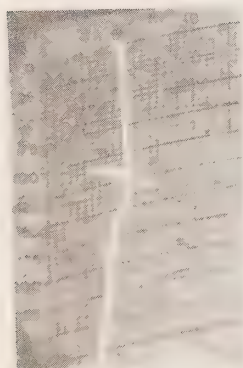
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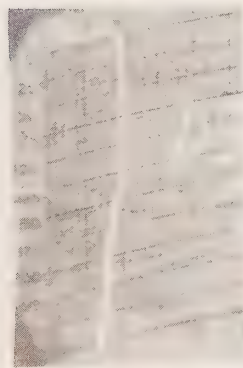
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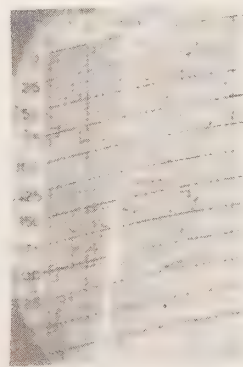
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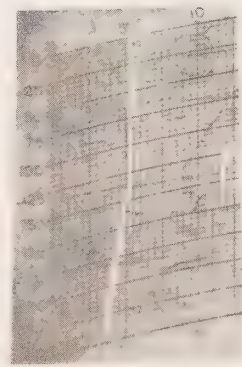
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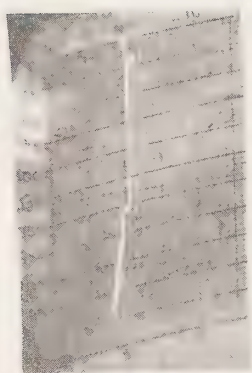
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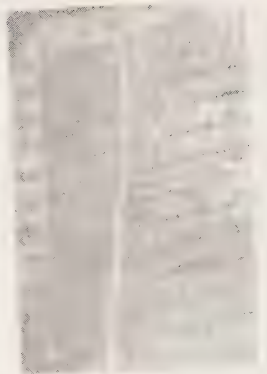
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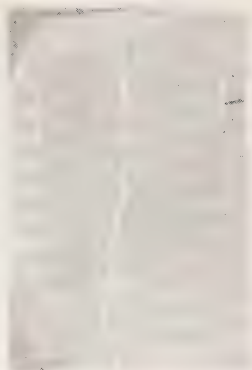
213



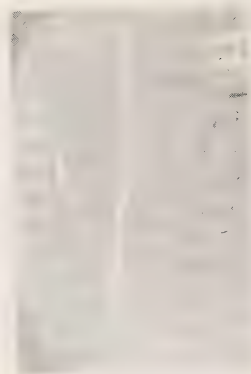
214



215



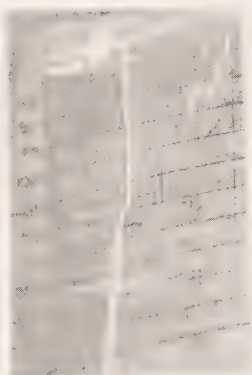
216



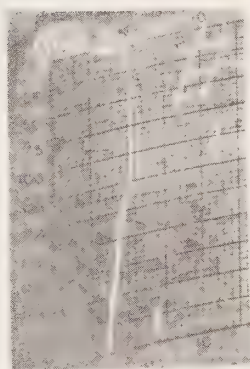
217



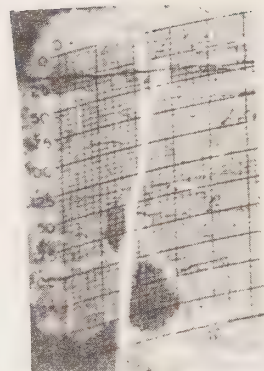
218



219



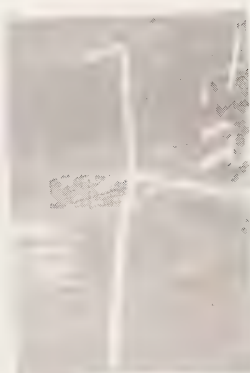
220



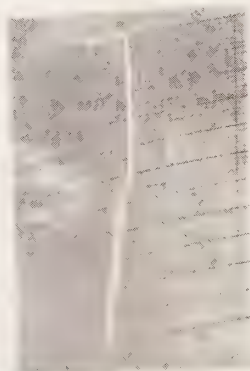
221



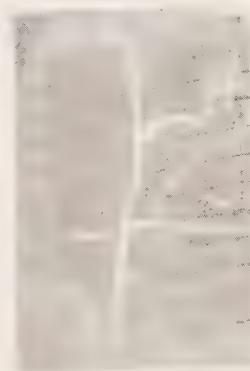
224



226



227



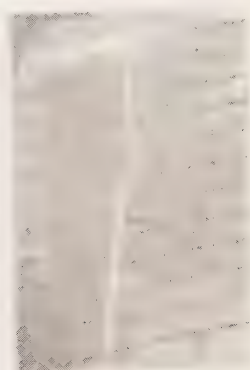
228



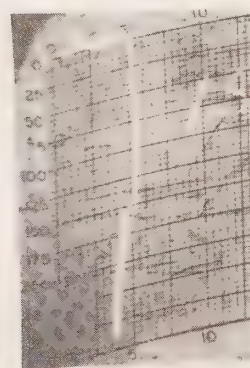
229



230

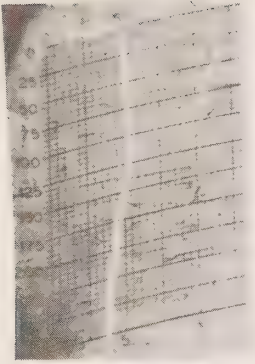


231

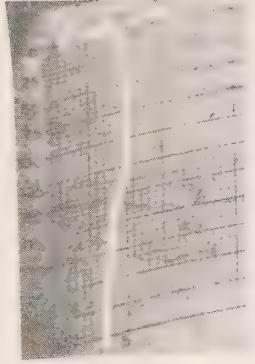


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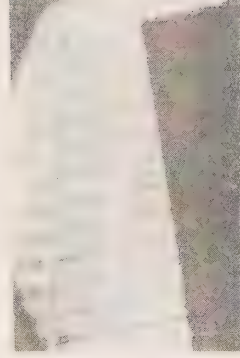




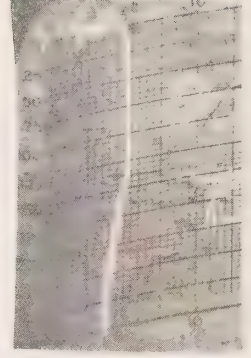
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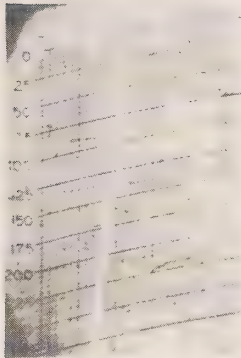
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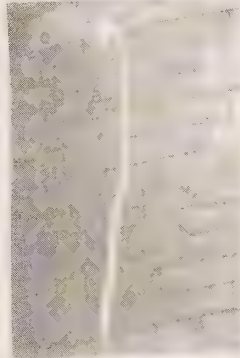
235



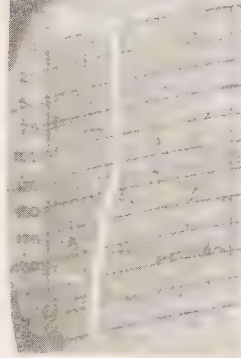
236



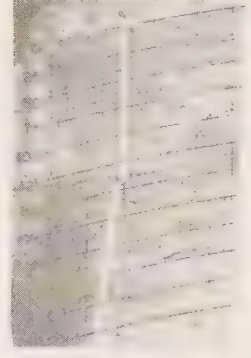
237



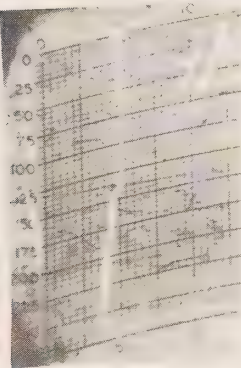
238



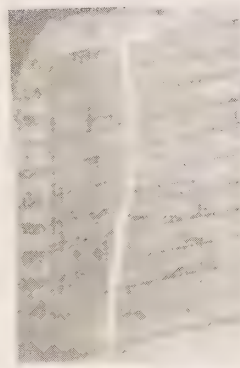
239



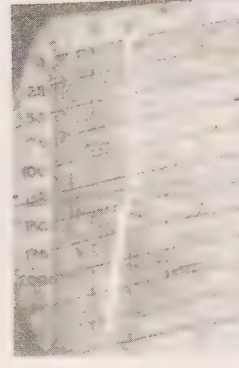
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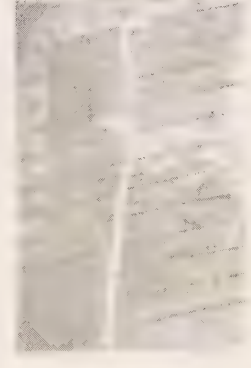
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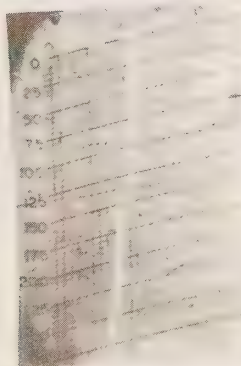
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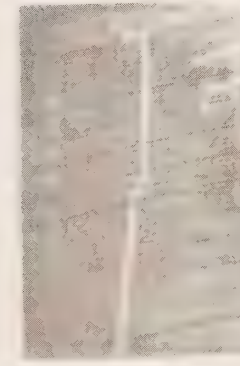
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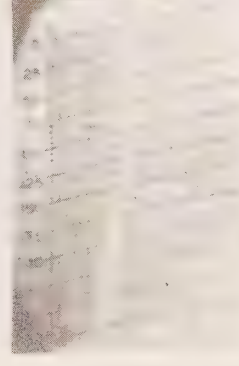
244



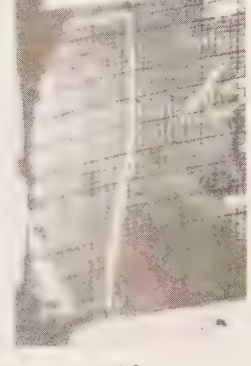
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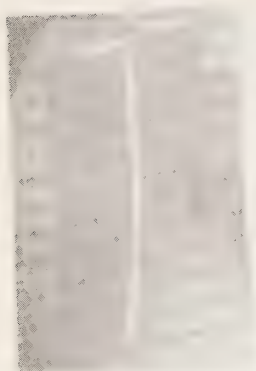
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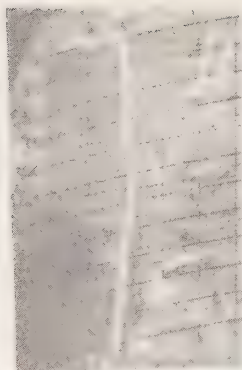
247



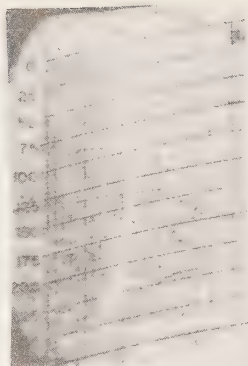
248



251



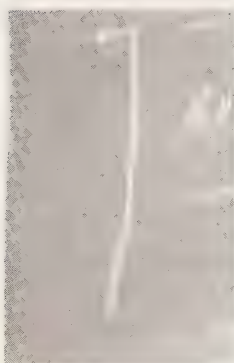
252



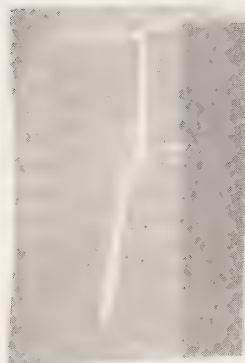
253



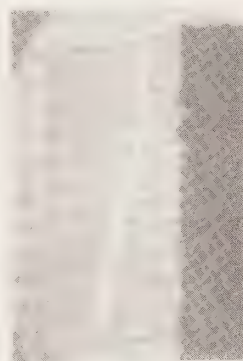
254



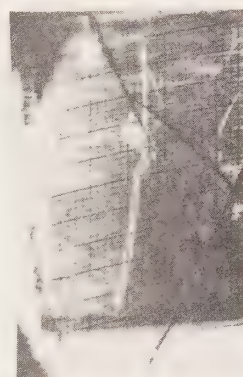
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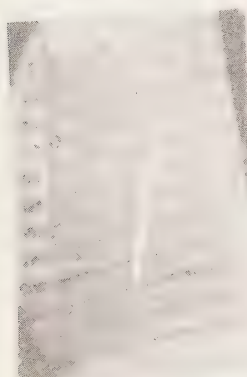
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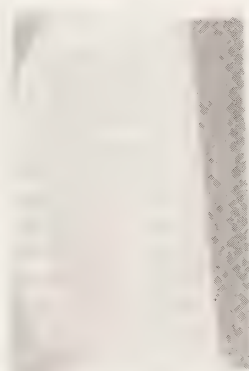
257



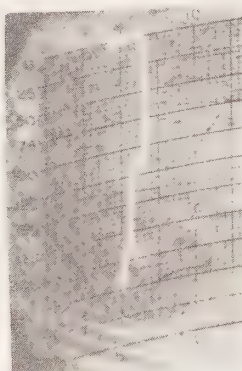
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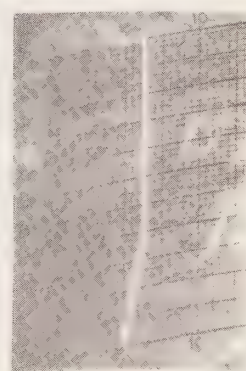
259



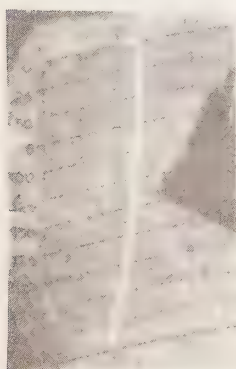
260



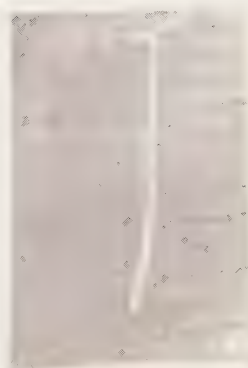
261



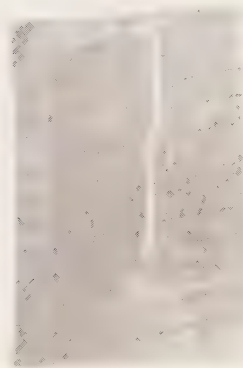
262



263



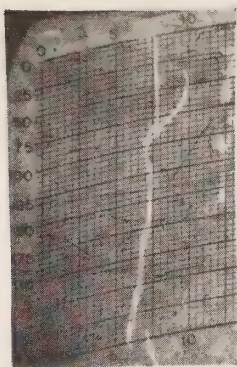
264



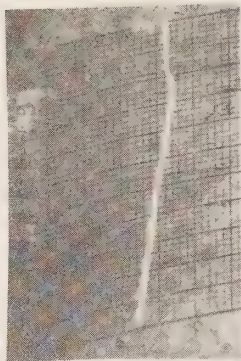
265



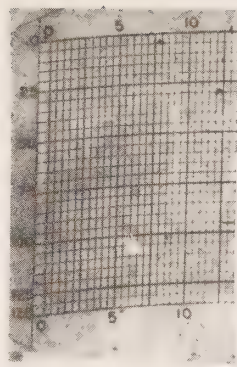
266



267



268



269





CCGS "STONETOWN" Patrol No. 73

BATHYTHERMOGRAMS





TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 1         | 48  | 33  | 125  | 32  | 25   | 02  | 67 | 01  | 00  | 0128            | 04         | 00         | 30          | 86  |   |     |   | 7     | 9 |
| 2         | 48  | 38  | 126  | 00  | 25   | 02  | 67 | 02  | 30  | 0110            | 04         | 00         | 25          | XX  |   |     |   | X     | 9 |
| 3         | 48  | 43  | 126  | 40  | 25   | 02  | 67 | 04  | 45  | 1300            | 04         | 00         | 25          | XX  |   |     |   | X     | 9 |
| 4         | 49  | 05  | 130  | 38  | 25   | 02  | 67 | 19  | 30  | 2930            | 14         | 03         | 30          | 84  |   |     |   | 4     | 8 |
| 5         | 49  | 56  | 143  | 40  | 28   | 02  | 67 | 08  | 00  | 4115            | 11         | 23         | 30          | XX  |   |     |   | X     | X |
| 6         | 49  | 58  | 145  | 05  | 01   | 03  | 67 | 06  | 00  | 4221            | 24         | 03         | 30          | 56  |   |     |   | 6     | 8 |
| 7         | 49  | 58  | 145  | 00  | 01   | 03  | 67 | 09  | 00  | 4221            | 26         | 01         | 25          | 45  |   |     |   | X     | 9 |
| 8         | 49  | 58  | 144  | 56  | 01   | 03  | 67 | 12  | 00  | 4221            | 28         | 03         | 16          | 22  |   |     |   | 3     | 4 |
| 9         | 49  | 56  | 144  | 52  | 01   | 03  | 67 | 15  | 00  | 4221            | 26         | 50         | 20          | 21  |   |     |   | X     | X |
| 10        | 50  | 04  | 150  | 02  | 01   | 03  | 67 | 18  | 00  | 4221            | 26         | 02         | 25          | 22  |   |     |   | X     | 8 |
| 11        | 50  | 05  | 144  | 59  | 01   | 03  | 67 | 21  | 00  | 4221            | 26         | 02         | 25          | 32  |   |     |   | 6     | 8 |
| 12        | 50  | 00  | 145  | 00  | 02   | 03  | 67 | 00  | 00  | 4221            | 27         | 02         | 28          | 33  |   |     |   | 7     | 8 |
| 13        | 50  | 00  | 145  | 05  | 02   | 03  | 67 | 03  | 00  | 4221            | 28         | 02         | 30          | 43  |   |     |   | 6     | 8 |
| 14        | 49  | 57  | 145  | 25  | 02   | 03  | 67 | 06  | 00  | 4221            | 30         | 02         | 30          | 65  |   |     |   | 6     | 8 |
| 15        | 49  | 59  | 145  | 08  | 02   | 03  | 67 | 09  | 00  | 4221            | 32         | 02         | 25          | 65  |   |     |   | 6     | 8 |
| 16        | 49  | 58  | 145  | 01  | 02   | 03  | 67 | 12  | 00  | 4221            | 35         | 03         | 25          | 22  |   |     |   | 7     | 7 |
| 17        | 49  | 55  | 145  | 05  | 02   | 03  | 67 | 15  | 00  | 4221            | 35         | 02         | 15          | 21  |   |     |   | 7     | 8 |
| 18        | 49  | 56  | 145  | 02  | 02   | 03  | 67 | 18  | 00  | 4221            | 37         | 02         | 20          | 44  |   |     |   | 6     | 8 |
| 19        | 49  | 56  | 144  | 59  | 02   | 03  | 67 | 21  | 00  | 4221            | 38         | 02         | 10          | 44  |   |     |   | 6     | 8 |
| 20        | 49  | 56  | 144  | 57  | 03   | 03  | 67 | 00  | 00  | 4221            | 38         | 02         | 10          | 44  |   |     |   | 7     | 8 |
| 21        | 49  | 56  | 144  | 55  | 03   | 03  | 67 | 03  | 00  | 4221            | 38         | 02         | 12          | 20  |   |     |   | 6     | 8 |
| 22        | 49  | 55  | 144  | 51  | 03   | 03  | 67 | 06  | 00  | 4221            | 39         | 02         | 12          | 20  |   |     |   | 6     | 8 |
| 23        | 49  | 55  | 144  | 49  | 03   | 03  | 67 | 09  | 00  | 4221            | 40         | 02         | 10          | 20  |   |     |   | X     | 8 |
| 24        | 50  | 01  | 144  | 50  | 03   | 03  | 67 | 12  | 00  | 4221            | 40         | 02         | 11          | 20  |   |     |   | X     | 5 |
| 25        | 50  | 01  | 144  | 41  | 03   | 03  | 67 | 15  | 00  | 4221            | 39         | 02         | 11          | 20  |   |     |   | X     | 8 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W 1 |   | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 26        | 50  | 00  | 144  | 46  | 03   | 03  | 67 | 18  | 00  | 4221            | 40         | 10         | 10          | 33  |   |     |   | X     | 9 |
| 27        | 49  | 58  | 145  | 00  | 03   | 03  | 67 | 21  | 00  | 4221            | 40         | 10         | 10          | 33  |   |     |   | X     | 9 |
| 28        | 50  | 05  | 144  | 56  | 04   | 03  | 67 | 00  | 00  | 4221            | 39         | 10         | 14          | 21  |   |     |   | 7     | 8 |
| 29        | 50  | 05  | 144  | 52  | 04   | 03  | 67 | 03  | 00  | 4221            | 39         | 02         | 11          | 20  |   |     |   | 7     | 8 |
| 30        | 50  | 02  | 144  | 55  | 04   | 03  | 67 | 06  | 00  | 4221            | 40         | 02         | 10          | XX  |   |     |   | X     | 9 |
| 31        | 50  | 01  | 145  | 00  | 04   | 03  | 67 | 09  | 00  | 4221            | 40         | 02         | 15          | XX  |   |     |   | 7     | 9 |
| 32        | 50  | 06  | 144  | 59  | 04   | 03  | 67 | 12  | 00  | 4221            | 39         | 10         | 09          | 20  |   |     |   | 0     | 0 |
| 33        | 50  | 07  | 144  | 55  | 04   | 03  | 67 | 15  | 00  | 4221            | 38         | 10         | 10          | 20  |   |     |   | X     | 1 |
| 34        | 50  | 02  | 144  | 58  | 04   | 03  | 67 | 18  | 00  | 4221            | 38         | 02         | 20          | 44  |   |     |   | 6     | 8 |
| 35        | 50  | 01  | 144  | 57  | 04   | 03  | 67 | 21  | 00  | 4221            | 39         | 02         | 15          | 44  |   |     |   | 6     | 8 |
| 36        | 50  | 01  | 145  | 00  | 05   | 03  | 67 | 00  | 00  | 4221            | 38         | 10         | 13          | 21  |   |     |   | 6     | 4 |
| 37        | 50  | 01  | 145  | 01  | 05   | 03  | 67 | 03  | 00  | 4221            | 37         | 46         | 12          | 21  |   |     |   | 4     | 8 |
| 38        | 49  | 58  | 144  | 59  | 05   | 03  | 67 | 06  | 00  | 4221            | 38         | 02         | 12          | 23  |   |     |   | X     | 9 |
| 39        | 49  | 57  | 144  | 58  | 05   | 03  | 67 | 09  | 00  | 4221            | 38         | 02         | 15          | 23  |   |     |   | X     | 9 |
| 40        | 50  | 02  | 144  | 57  | 05   | 03  | 67 | 12  | 00  | 4221            | 37         | 41         | 10          | 22  |   |     |   | 0     | 0 |
| 41        | 50  | 00  | 145  | 00  | 05   | 03  | 67 | 15  | 00  | 4221            | 36         | 44         | 10          | XX  |   |     |   | 0     | 0 |
| 42        | 50  | 02  | 144  | 54  | 05   | 03  | 67 | 18  | 00  | 4221            | 36         | 02         | 10          | XX  |   |     |   | 8     | 4 |
| 43        | 50  | 02  | 144  | 52  | 05   | 03  | 67 | 21  | 00  | 4221            | 36         | 02         | 10          | XX  |   |     |   | 8     | 4 |
| 44        | 50  | 00  | 145  | 00  | 06   | 03  | 67 | 00  | 00  | 4221            | 34         | 03         | 19          | 22  |   |     |   | 7     | 7 |
| 45        | 50  | 05  | 144  | 58  | 06   | 03  | 67 | 03  | 00  | 4221            | 34         | 41         | 20          | 34  |   |     |   | 6     | 8 |
| 46        | 50  | 02  | 144  | 58  | 06   | 03  | 67 | 06  | 00  | 4221            | 34         | 10         | 20          | 34  |   |     |   | 6     | 8 |
| 47        | 50  | 00  | 144  | 58  | 06   | 03  | 67 | 09  | 00  | 4221            | 34         | 02         | 20          | 34  |   |     |   | X     | X |
| 48        | 50  | 00  | 145  | 00  | 06   | 03  | 67 | 12  | 00  | 4221            | 33         | 41         | 22          | 34  |   |     |   | 0     | 0 |
| 49        | 50  | 03  | 144  | 55  | 06   | 03  | 67 | 15  | 00  | 4221            | 33         | 50         | 25          | 24  |   |     |   | X     | X |
| 50        | 50  | 00  | 144  | 56  | 06   | 03  | 67 | 18  | 00  | 4221            | 34         | 10         | 25          | 34  |   |     |   | X     | X |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH  | BAR | WW   | WIND | W 1 |   | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|--------|-----|------|------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min | Metres | Mbs | Code | Amt  | P   | H | P   | H | I     | A |
| 51        | 50  | 02  | 144  | 58  | 06   | 03  | 67 | 21  | 00  | 4221   | 34  | 10   | 25   | 34  |   |     |   | 6     | 8 |
| 52        | 50  | 07  | 144  | 58  | 07   | 03  | 67 | 00  | 00  | 4221   | 33  | 12   | 30   | 35  |   |     |   | 6     | 9 |
| 53        | 49  | 57  | 145  | 04  | 07   | 03  | 67 | 03  | 00  | 4221   | 33  | 43   | 25   | 25  |   |     |   | 7     | 8 |
| 54        | 48  | 48  | 145  | 02  | 07   | 03  | 67 | 06  | 00  | 4221   | 34  | 41   | 25   | 44  |   |     |   | X     | 9 |
| 55        | 49  | 55  | 145  | 00  | 07   | 03  | 67 | 09  | 00  | 4221   | 34  | 02   | 25   | 44  |   |     |   | X     | 9 |
| 56        | 49  | 55  | 145  | 00  | 07   | 03  | 67 | 12  | 00  | 4221   | 33  | 10   | 23   | 45  |   |     |   | 7     | 8 |
| 57        | 49  | 58  | 145  | 00  | 07   | 03  | 67 | 15  | 00  | 4221   | 33  | 41   | 25   | XX  |   |     |   | 7     | 0 |
| 58        | 50  | 02  | 144  | 55  | 07   | 03  | 67 | 18  | 00  | 4221   | 31  | 02   | 25   | 55  |   |     |   | 6     | 6 |
| 59        | 50  | 03  | 145  | 00  | 07   | 03  | 67 | 21  | 00  | 4221   | 30  | 02   | 30   | 55  |   |     |   | 6     | 8 |
| 60        | 49  | 58  | 144  | 50  | 08   | 03  | 67 | 00  | 00  | 4221   | 28  | 10   | 34   | 48  |   |     |   | 7     | 8 |
| 61        | 49  | 57  | 145  | 04  | 10   | 03  | 67 | 12  | 00  | 4221   | 22  | 01   | 21   | 35  |   |     |   | 6     | 3 |
| 62        | 50  | 00  | 145  | 05  | 10   | 03  | 67 | 15  | 00  | 4221   | 22  | 03   | 30   | XX  |   |     |   | X     | 8 |
| 63        | 49  | 58  | 145  | 08  | 10   | 03  | 67 | 18  | 00  | 4221   | 22  | 02   | 35   | 45  |   |     |   | 7     | 7 |
| 64        | 49  | 59  | 145  | 06  | 10   | 03  | 67 | 21  | 00  | 4221   | 22  | 02   | 35   | 45  |   |     |   | 7     | 7 |
| 65        | 49  | 55  | 145  | 00  | 11   | 03  | 67 | 00  | 00  | 4221   | 23  | 01   | 29   | 66  |   |     |   | 6     | 4 |
| 66        | 50  | 00  | 145  | 00  | 11   | 03  | 67 | 06  | 00  | 4221   | 24  | 02   | 30   | 55  |   |     |   | 6     | 5 |
| 67        | 50  | 03  | 145  | 01  | 11   | 03  | 67 | 12  | 00  | 4221   | 26  | 01   | 29   | 57  |   |     |   | 6     | 5 |
| 68        | 50  | 05  | 145  | 00  | 11   | 03  | 67 | 15  | 00  | 4221   | 27  | 03   | 30   | XX  |   |     |   | 6     | 1 |
| 69        | 50  | 17  | 145  | 01  | 11   | 03  | 67 | 18  | 00  | 4221   | 29  | 02   | 30   | 46  |   |     |   | 6     | 8 |
| 70        | 50  | 08  | 145  | 02  | 11   | 03  | 67 | 21  | 00  | 4221   | 30  | 02   | 20   | 46  |   |     |   | 6     | 8 |
| 71        | 50  | 00  | 145  | 05  | 12   | 03  | 67 | 00  | 00  | 4221   | 29  | 03   | 27   | 55  |   |     |   | 6     | 7 |
| 72        | 50  | 03  | 145  | 08  | 12   | 03  | 67 | 03  | 00  | 4221   | 13  | 03   | 25   | 46  |   |     |   | 6     | 8 |
| 73        | 50  | 02  | 145  | 02  | 12   | 03  | 67 | 06  | 00  | 4221   | 32  | 02   | 25   | 46  |   |     |   | 6     | 8 |
| 74        | 49  | 56  | 145  | 04  | 12   | 03  | 67 | 09  | 00  | 4221   | 32  | 02   | 25   | 46  |   |     |   | 6     | 6 |
| 75        | 49  | 56  | 145  | 04  | 12   | 03  | 67 | 12  | 00  | 4221   | 32  | 02   | 16   | 34  |   |     |   | 6     | 7 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W 1 |   | W 2 |   | CLOUD |     |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|-----|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A   |
| 76        | 49  | 56  | 145  | 00  | 12   | 03  | 67 | 15  | 00  | 4221            | 32         | 02         | 17          | 23  |   |     |   |       | 6 6 |
| 77        | 49  | 57  | 144  | 58  | 12   | 03  | 67 | 18  | 00  | 4221            | 32         | 02         | 12          | 45  |   |     |   |       | 6 7 |
| 78        | 49  | 58  | 145  | 02  | 12   | 03  | 67 | 21  | 00  | 4221            | 32         | 02         | 12          | 45  |   |     |   |       | 6 8 |
| 79        | 50  | 01  | 145  | 04  | 13   | 03  | 67 | 00  | 00  | 4221            | 30         | 16         | 12          | 20  |   |     |   |       | 7 7 |
| 80        | 50  | 00  | 145  | 02  | 13   | 03  | 67 | 03  | 00  | 4221            | 30         | 11         | 10          | 44  |   |     |   |       | 8 8 |
| 81        | 49  | 58  | 145  | 03  | 13   | 03  | 67 | 06  | 00  | 4221            | 30         | 11         | 10          | 44  |   |     |   |       | 6 6 |
| 82        | 49  | 57  | 145  | 03  | 13   | 03  | 67 | 09  | 00  | 4221            | 29         | 11         |             | 44  |   |     |   |       | 6 8 |
| 83        | 49  | 55  | 145  | 03  | 13   | 03  | 67 | 12  | 00  | 4221            | 27         | 01         | 24          | 22  |   |     |   |       | 6 1 |
| 84        | 48  | 50  | 145  | 01  | 13   | 03  | 67 | 15  | 00  | 4221            | 27         | 03         | 35          | XX  |   |     |   |       | X 4 |
| 85        | 50  | 00  | 144  | 56  | 17   | 03  | 67 | 12  | 00  | 4221            | 11         | 02         | 13          | 22  |   |     |   |       | 6 3 |
| 86        | 50  | 00  | 145  | 00  | 17   | 03  | 67 | 15  | 00  | 4221            | 11         | 02         | 20          | XX  |   |     |   |       | X 2 |
| 87        | 49  | 58  | 144  | 56  | 17   | 03  | 67 | 18  | 00  | 4221            | 10         | 02         | 30          | 45  |   |     |   |       | 6 8 |
| 88        | 49  | 56  | 145  | 03  | 17   | 03  | 67 | 21  | 00  | 4221            | 10         | 02         | 25          | 45  |   |     |   |       | 6 8 |
| 89        | 49  | 52  | 145  | 03  | 18   | 03  | 67 | 00  | 00  | 4221            | 07         | 15         | 20          | 22  |   |     |   |       | 6 7 |
| 90        | 49  | 48  | 145  | 00  | 18   | 03  | 67 | 03  | 00  | 4221            | 07         | 15         | 15          | 21  |   |     |   |       | 6 7 |
| 91        | 49  | 57  | 144  | 58  | 18   | 03  | 67 | 06  | 00  | 4221            | 08         | 25         | 15          | XX  |   |     |   |       | 6 7 |
| 92        | 49  | 58  | 144  | 58  | 18   | 03  | 67 | 09  | 00  | 4221            | 08         | 25         | 15          | XX  |   |     |   |       | 6 7 |
| 93        | 49  | 58  | 144  | 59  | 18   | 03  | 67 | 12  | 00  | 4221            | 09         | 15         | 17          | 22  |   |     |   |       | 6 4 |
| 94        | 49  | 59  | 144  | 55  | 18   | 03  | 67 | 15  | 00  | 4221            | 09         | 68         | 25          | 22  |   |     |   |       | X 5 |
| 95        | 50  | 02  | 144  | 54  | 18   | 03  | 67 | 18  | 00  | 4221            | 10         | 02         | 20          | 43  |   |     |   |       | 6 6 |
| 96        | 49  | 58  | 144  | 52  | 18   | 03  | 67 | 21  | 00  | 4221            | 10         | 02         | 20          | 43  |   |     |   |       | 6 6 |
| 97        | 50  | 02  | 144  | 55  | 19   | 03  | 67 | 00  | 00  | 4221            | 11         | 16         | 20          | 23  |   |     |   |       | 6 6 |
| 98        | 49  | 59  | 145  | 00  | 19   | 03  | 67 | 03  | 00  | 4221            | 11         | 81         | 25          | 22  |   |     |   |       | 6 8 |
| 99        | 49  | 57  | 144  | 59  | 19   | 03  | 67 | 06  | 00  | 4221            | 12         | 02         | 20          | 22  |   |     |   |       | 6 6 |
| 100       | 49  | 58  | 144  | 58  | 19   | 03  | 67 | 09  | 00  | 4221            | 11         | 02         | 10          | 22  |   |     |   |       | 6 6 |



TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W 1 |   | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 101       | 49  | 58  | 144  | 58  | 19   | 03  | 67 | 12  | 00  | 4221            | 09         | 18         | 18          | 22  |   |     |   | 5     | 5 |
| 102       | 49  | 57  | 144  | 55  | 19   | 03  | 67 | 15  | 00  | 4221            | 08         | 86         | 20          | 22  |   |     |   | X     | 8 |
| 103       | 50  | 00  | 144  | 57  | 19   | 03  | 67 | 18  | 00  | 4221            | 04         | 86         | 10          | 22  |   |     |   | 6     | 6 |
| 104       | 50  | 02  | 144  | 56  | 19   | 03  | 67 | 21  | 00  | 4221            | 03         | 86         | 20          | 44  |   |     |   | 6     | 7 |
| 105       | 49  | 58  | 144  | 57  | 20   | 03  | 67 | 00  | 00  | 4221            | 02         | 26         | 22          | 43  |   |     |   | 9     | 3 |
| 106       | 50  | 01  | 144  | 55  | 20   | 03  | 67 | 03  | 00  | 4221            | 02         | 26         | 15          | 43  |   |     |   | 8     | 6 |
| 107       | 49  | 59  | 144  | 54  | 20   | 03  | 67 | 06  | 00  | 4221            | 04         | 02         | 20          | 43  |   |     |   | 5     | 4 |
| 108       | 49  | 57  | 144  | 55  | 20   | 03  | 67 | 09  | 00  | 4221            | 04         | 03         | 20          | 43  |   |     |   | 6     | 8 |
| 109       | 49  | 58  | 144  | 54  | 20   | 03  | 67 | 12  | 00  | 4221            | 05         | 02         | 23          | 43  |   |     |   | 6     | 5 |
| 110       | 50  | 00  | 145  | 00  | 20   | 03  | 67 | 15  | 00  | 4221            | 07         | 25         | 22          | 20  |   |     |   | X     | 7 |
| 111       | 50  | 02  | 144  | 52  | 20   | 03  | 67 | 18  | 00  | 4221            | 09         | 01         | 20          | 33  |   |     |   | 8     | 4 |
| 112       | 50  | 04  | 144  | 59  | 20   | 03  | 67 | 21  | 00  | 4221            | 10         | 01         | 20          | 33  |   |     |   | 6     | 4 |
| 113       | 50  | 05  | 145  | 00  | 21   | 03  | 67 | 00  | 00  | 4221            | 12         | 02         | 20          | 33  |   |     |   | 8     | 4 |
| 114       | 50  | 02  | 145  | 00  | 21   | 03  | 67 | 03  | 00  | 4221            | 12         | 02         | 15          | 23  |   |     |   | 8     | 2 |
| 115       | 50  | 04  | 144  | 56  | 21   | 03  | 67 | 06  | 00  | 4221            | 13         | 02         | 20          | 43  |   |     |   | 8     | 6 |
| 116       | 50  | 00  | 144  | 55  | 21   | 03  | 67 | 09  | 00  | 4221            | 14         | 02         | 15          | 43  |   |     |   | 8     | 6 |
| 117       | 49  | 58  | 144  | 56  | 21   | 03  | 67 | 12  | 00  | 4221            | 13         | 01         | 22          | 23  |   |     |   | 8     | 3 |
| 118       | 50  | 00  | 145  | 00  | 21   | 03  | 67 | 15  | 00  | 4221            | 14         | 03         | 20          | 23  |   |     |   | X     | 8 |
| 119       | 50  | 01  | 144  | 59  | 21   | 03  | 67 | 18  | 00  | 4221            | 14         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 120       | 50  | 01  | 144  | 57  | 21   | 03  | 67 | 21  | 00  | 4221            | 13         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 121       | 49  | 57  | 144  | 58  | 22   | 03  | 67 | 00  | 00  | 4221            | 11         | 02         | 17          | 22  |   |     |   | 6     | 7 |
| 122       | 45  | 55  | 145  | 00  | 22   | 03  | 67 | 03  | 00  | 4221            | 11         | 89         | 30          | 24  |   |     |   | 6     | 4 |
| 123       | 49  | 55  | 145  | 00  | 22   | 03  | 67 | 06  | 00  | 4221            | 10         | 87         | 25          | 44  |   |     |   | 8     | 9 |
| 124       | 49  | 56  | 145  | 00  | 22   | 03  | 67 | 09  | 00  | 4221            | 10         | 18         | 25          | 44  |   |     |   | 8     | 6 |
| 125       | 49  | 58  | 145  | 01  | 22   | 03  | 67 | 12  | 00  | 4221            | 09         | 27         | 23          | 44  |   |     |   | 7     | 7 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hr  | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 126       | 49  | 56  | 144  | 59  | 22   | 03  | 67 | 15  | 00  | 4221            | 08         | 02         | 20          | 24  |   |     |   | 6     | 8 |
| 127       | 49  | 57  | 145  | 02  | 22   | 03  | 67 | 18  | 00  | 4221            | 08         | 02         | 25          | 44  |   |     |   | 6     | 8 |
| 128       | 49  | 59  | 145  | 04  | 22   | 03  | 67 | 21  | 00  | 4221            | 08         | 02         | 25          | 44  |   |     |   | 6     | 8 |
| 129       | 49  | 58  | 145  | 06  | 23   | 03  | 67 | 00  | 00  | 4221            | 07         | 15         | 16          | 43  |   |     |   | 6     | 7 |
| 130       | 49  | 56  | 145  | 02  | 23   | 03  | 67 | 03  | 00  | 4221            | 07         | 02         | 20          | 44  |   |     |   | 8     | 6 |
| 131       | 50  | 01  | 145  | 01  | 23   | 03  | 67 | 06  | 00  | 4221            | 07         | 02         | 15          | 43  |   |     |   | 8     | 8 |
| 132       | 49  | 59  | 145  | 02  | 23   | 03  | 67 | 09  | 00  | 4221            | 06         | 02         | 20          | 44  |   |     |   | 8     | 8 |
| 133       | 49  | 54  | 145  | 00  | 23   | 03  | 67 | 12  | 00  | 4221            | 06         | 16         | 27          | 33  |   |     |   | 6     | 7 |
| 134       | 49  | 53  | 145  | 00  | 23   | 03  | 67 | 15  | 00  | 4221            | 07         | 03         | 30          | 23  |   |     |   | 6     | 7 |
| 135       | 49  | 50  | 145  | 00  | 23   | 03  | 67 | 18  | 00  | 4221            | 10         | 26         | 30          | 45  |   |     |   | 6     | 8 |
| 136       | 49  | 56  | 145  | 06  | 23   | 03  | 67 | 21  | 00  | 4221            | 11         | 02         | 30          | 55  |   |     |   | 6     | 8 |
| 137       | 50  | 15  | 145  | 12  | 24   | 03  | 67 | 06  | 00  | 4221            | 14         | 02         | 25          | 55  |   |     |   | 6     | 8 |
| 138       | 50  | 06  | 145  | 08  | 24   | 03  | 67 | 09  | 00  | 4221            | 15         | 02         | 25          | 45  |   |     |   | 6     | 8 |
| 139       | 50  | 01  | 145  | 00  | 24   | 03  | 67 | 12  | 00  | 4221            | 16         | 71         | 18          | 44  |   |     |   | 7     | 8 |
| 140       | 49  | 56  | 144  | 53  | 24   | 03  | 67 | 15  | 00  | 4221            | 16         | 02         | 20          | 23  |   |     |   | 7     | 8 |
| 141       | 50  | 04  | 145  | 00  | 24   | 03  | 67 | 18  | 00  | 4221            | 17         | 02         | 20          | 23  |   |     |   | 7     | 8 |
| 142       | 50  | 01  | 144  | 59  | 24   | 03  | 67 | 21  | 00  | 4221            | 17         | 02         | 20          | 23  |   |     |   | 7     | 8 |
| 143       | 49  | 56  | 145  | 00  | 25   | 03  | 67 | 00  | 00  | 4221            | 16         | 87         | 17          | 22  |   |     |   | 6     | 8 |
| 144       | 50  | 00  | 145  | 08  | 25   | 03  | 67 | 03  | 00  | 4221            | 17         | 02         | 18          | 22  |   |     |   | 6     | 8 |
| 145       | 50  | 02  | 145  | 05  | 25   | 03  | 67 | 06  | 00  | 4221            | 18         | 02         | 20          | 22  |   |     |   | 6     | 8 |
| 146       | 50  | 01  | 145  | 02  | 25   | 03  | 67 | 09  | 00  | 4221            | 18         | 02         | 20          | 22  |   |     |   | 6     | 9 |
| 147       | 50  | 00  | 145  | 03  | 25   | 03  | 67 | 12  | 00  | 4221            | 18         | 02         | 19          | 22  |   |     |   | 6     | 8 |
| 148       | 49  | 58  | 144  | 55  | 25   | 03  | 67 | 15  | 00  | 4221            | 20         | 02         | 15          | 21  |   |     |   | 6     | 8 |
| 149       | 50  | 02  | 144  | 57  | 25   | 03  | 67 | 18  | 00  | 4221            | 22         | 02         | 15          | 21  |   |     |   | 6     | 8 |
| 150       | 50  | 01  | 144  | 56  | 25   | 03  | 67 | 21  | 00  | 4221            | 22         | 02         | 15          | 21  |   |     |   | 6     | 8 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 151       | 49  | 56  | 144  | 51  | 26   | 03  | 67 | 00  | 00  | 4221            | 22         | 03         | 08          | 20  |   |     |   | 6     | 5 |
| 152       | 49  | 55  | 144  | 51  | 26   | 03  | 67 | 03  | 00  | 4221            | 20         | 02         | 12          | 20  |   |     |   | 6     | 8 |
| 153       | 49  | 53  | 144  | 58  | 26   | 03  | 67 | 06  | 00  | 4221            | 19         | 02         | 15          | 15  |   |     |   | 6     | 8 |
| 154       | 49  | 58  | 144  | 57  | 26   | 03  | 67 | 09  | 00  | 4221            | 16         | 02         | 25          | 23  |   |     |   | 6     | 8 |
| 155       | 50  | 07  | 145  | 21  | 28   | 03  | 67 | 18  | 00  | 4221            | 28         | 02         | 20          | 46  |   |     |   | 6     | 8 |
| 156       | 50  | 01  | 145  | 05  | 28   | 03  | 67 | 21  | 00  | 4221            | 27         | 02         | 15          | 46  |   |     |   | 6     | 8 |
| 157       | 50  | 01  | 145  | 05  | 29   | 03  | 67 | 00  | 00  | 4221            | 24         | 25         | 20          | 23  |   |     |   | 7     | 8 |
| 158       | 50  | 01  | 145  | 01  | 29   | 03  | 67 | 03  | 00  | 4221            | 19         | 50         | 20          | 23  |   |     |   | 7     | 8 |
| 159       | 49  | 55  | 145  | 00  | 30   | 03  | 67 | 12  | 00  | 4221            | 30         | 02         | 25          | 24  |   |     |   | 6     | 2 |
| 160       | 49  | 57  | 145  | 01  | 30   | 03  | 67 | 15  | 00  | 4221            | 33         | 02         | 25          | 23  |   |     |   | 6     | 7 |
| 161       | 50  | 05  | 145  | 00  | 30   | 03  | 67 | 18  | 00  | 4221            | 35         | 02         | 20          | 34  |   |     |   | 6     | 8 |
| 162       | 50  | 03  | 144  | 58  | 30   | 03  | 67 | 21  | 00  | 4221            | 36         | 02         | 20          | 34  |   |     |   | 6     | 6 |
| 163       | 50  | 03  | 144  | 57  | 31   | 03  | 67 | 00  | 00  | 4221            | 36         | 02         | 20          | 34  |   |     |   | 8     | 8 |
| 164       | 49  | 58  | 144  | 59  | 31   | 03  | 67 | 03  | 00  | 4221            | 35         | 02         | 20          | 23  |   |     |   | 6     | 5 |
| 165       | 49  | 54  | 144  | 58  | 31   | 03  | 67 | 06  | 00  | 4221            | 37         | 02         | 20          | 23  |   |     |   | 6     | 6 |
| 166       | 50  | 00  | 144  | 54  | 31   | 03  | 67 | 09  | 00  | 4221            | 37         | 02         | 20          | 23  |   |     |   | 6     | 6 |
| 167       | 50  | 01  | 144  | 57  | 31   | 03  | 67 | 12  | 00  | 4221            | 36         | 02         | 11          | 21  |   |     |   | 8     | 3 |
| 168       | 49  | 56  | 145  | 00  | 31   | 03  | 67 | 15  | 00  | 4221            | 36         | 03         | 08          | 20  |   |     |   | 6     | 6 |
| 169       | 49  | 57  | 144  | 59  | 31   | 03  | 67 | 18  | 00  | 4221            | 36         | 01         | 05          | 20  |   |     |   | 6     | 6 |
| 170       | 49  | 56  | 144  | 58  | 31   | 03  | 67 | 21  | 00  | 4221            | 36         | 01         | 05          | 20  |   |     |   | 6     |   |
| 171       | 49  | 58  | 144  | 57  | 01   | 04  | 67 | 00  | 00  | 4221            | 35         | 03         | 07          | 20  |   |     |   | 6     | 6 |
| 172       | 49  | 55  | 144  | 52  | 01   | 04  | 67 | 03  | 00  | 4221            | 35         | 03         | 07          | 20  |   |     |   | 6     | 6 |
| 173       | 49  | 54  | 144  | 50  | 01   | 04  | 67 | 06  | 00  | 4221            | 35         | 02         | 10          | 20  |   |     |   | 6     | 6 |
| 174       | 49  | 57  | 145  | 00  | 01   | 04  | 67 | 09  | 00  | 4221            | 35         | 02         | 10          | 22  |   |     |   | 6     | 8 |
| 175       | 50  | 02  | 144  | 58  | 01   | 04  | 67 | 12  | 00  | 4221            | 33         | 02         | 18          | 23  |   |     |   | X     | 8 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 176       | 50  | 04  | 144  | 57  | 01   | 04  | 67 | 15  | 00  | 4221            | 33         | 02         | 20          | 23  |   |     |   | 7     | 8 |
| 177       | 50  | 08  | 144  | 52  | 01   | 04  | 67 | 18  | 00  | 4221            | 32         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 178       | 50  | 05  | 144  | 58  | 01   | 04  | 67 | 21  | 00  | 4221            | 32         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 179       | 50  | 07  | 144  | 57  | 02   | 04  | 67 | 00  | 00  | 4221            | 30         | 02         | 23          | 24  |   |     |   | 4     | 8 |
| 180       | 50  | 02  | 144  | 56  | 02   | 04  | 67 | 03  | 00  | 4221            | 30         | 02         | 28          | 35  |   |     |   | 7     | 8 |
| 181       | 49  | 58  | 145  | 01  | 02   | 04  | 67 | 06  | 00  | 4221            | 30         | 02         | 30          | 35  |   |     |   | 7     | 8 |
| 182       | 50  | 00  | 145  | 03  | 02   | 04  | 67 | 09  | 00  | 4221            | 29         | 02         | 25          | 45  |   |     |   | 7     | 8 |
| 183       | 50  | 01  | 144  | 58  | 02   | 04  | 67 | 12  | 00  | 4221            | 27         | 55         | 27          | 36  |   |     |   | X     | 8 |
| 184       | 50  | 03  | 144  | 57  | 02   | 04  | 67 | 15  | 00  | 4221            | 27         | 20         | 22          | 23  |   |     |   | 7     | 8 |
| 185       | 50  | 04  | 144  | 58  | 02   | 04  | 67 | 18  | 00  | 4221            | 28         | 02         | 20          | 23  |   |     |   | 7     | 8 |
| 186       | 50  | 09  | 144  | 52  | 02   | 04  | 67 | 21  | 00  | 4221            | 29         | 02         | 20          | 23  |   |     |   | 7     | 8 |
| 187       | 50  | 04  | 144  | 57  | 03   | 04  | 67 | 00  | 00  | 4221            | 30         | 02         | 22          | 35  |   |     |   | 8     | 1 |
| 188       | 50  | 03  | 144  | 56  | 03   | 04  | 67 | 03  | 00  | 4221            | 30         | 02         | 20          | 35  |   |     |   | 8     | 2 |
| 189       | 50  | 01  | 144  | 54  | 03   | 04  | 67 | 06  | 00  | 4221            | 32         | 02         | 25          | 35  |   |     |   | 8     | 2 |
| 190       | 50  | 02  | 145  | 04  | 03   | 04  | 67 | 09  | 00  | 4221            | 32         | 02         | 20          | 35  |   |     |   | 8     | 2 |
| 191       | 50  | 01  | 145  | 05  | 03   | 04  | 67 | 12  | 00  | 4221            | 33         | 02         | 19          | 35  |   |     |   | 8     | 3 |
| 192       | 49  | 59  | 144  | 58  | 03   | 04  | 67 | 15  | 00  | 4221            | 33         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 193       | 50  | 01  | 144  | 58  | 03   | 04  | 67 | 18  | 00  | 4221            | 34         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 194       | 50  | 03  | 144  | 58  | 03   | 04  | 67 | 21  | 00  | 4221            | 34         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 195       | 50  | 00  | 145  | 00  | 04   | 04  | 67 | 00  | 00  | 4221            | 34         | 02         | 25          | 34  |   |     |   | 6     | 8 |
| 196       | 49  | 59  | 144  | 57  | 04   | 04  | 67 | 03  | 00  | 4221            | 34         | 03         | 22          | 23  |   |     |   | 6     | 8 |
| 197       | 50  | 01  | 144  | 55  | 04   | 04  | 67 | 06  | 00  | 4221            | 34         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 198       | 50  | 02  | 145  | 02  | 04   | 04  | 67 | 09  | 00  | 4221            | 34         | 02         | 15          | 23  |   |     |   | 6     | 8 |
| 199       | 49  | 58  | 144  | 57  | 04   | 04  | 67 | 12  | 00  | 4221            | 32         | 02         | 15          | 22  |   |     |   | 8     | 3 |
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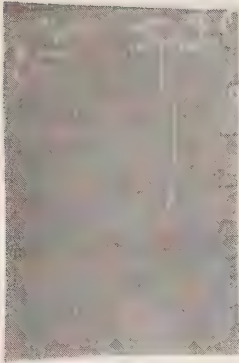
TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 201       | 50  | 01  | 144  | 58  | 04   | 04  | 67 | 18  | 00  | 4221            | 32         | 02         | 15          | 22  |   |     |   | 6     | 4 |
| 202       | 50  | 00  | 144  | 59  | 04   | 04  | 67 | 21  | 00  | 4221            | 32         | 02         | 15          | 22  |   |     |   | 6     | 2 |
| 203       | 50  | 00  | 145  | 00  | 05   | 04  | 67 | 00  | 00  | 4221            | 30         | 03         | 15          | 23  |   |     |   | 0     | 1 |
| 204       | 49  | 56  | 145  | 00  | 05   | 04  | 67 | 03  | 00  | 4221            | 30         | 01         | 16          | 23  |   |     |   | 0     | 3 |
| 205       | 50  | 02  | 145  | 00  | 05   | 04  | 67 | 06  | 00  | 4221            | 29         | 01         | 15          | 23  |   |     |   | 0     | 3 |
| 206       | 50  | 03  | 145  | 00  | 05   | 04  | 67 | 09  | 00  | 4221            | 29         | 02         | 10          | 23  |   |     |   | 0     | 2 |
| 207       | 50  | 04  | 144  | 56  | 05   | 04  | 67 | 12  | 00  | 4221            | 27         | 02         | 05          | X0  |   |     |   | X     | 1 |
| 208       | 50  | 03  | 144  | 54  | 05   | 04  | 67 | 15  | 00  | 4221            | 27         | 02         | 10          | 20  |   |     |   | X     | 1 |
| 209       | 50  | 02  | 144  | 58  | 05   | 04  | 67 | 18  | 00  | 4221            | 28         | 02         | 10          | 20  |   |     |   | 0     | 1 |
| 210       | 50  | 01  | 145  | 02  | 05   | 04  | 67 | 21  | 00  | 4221            | 28         | 02         | 10          | 20  |   |     |   | 0     | 1 |
| 211       | 50  | 00  | 144  | 58  | 06   | 04  | 67 | 00  | 00  | 4221            | 27         | 03         | 12          | 21  |   |     |   | 8     | 2 |
| 212       | 50  | 02  | 144  | 55  | 06   | 04  | 67 | 03  | 00  | 4221            | 27         | 03         | 10          | 21  |   |     |   | 8     | 8 |
| 213       | 49  | 58  | 145  | 04  | 06   | 04  | 67 | 06  | 00  | 4221            | 27         | 02         | 10          | 21  |   |     |   | 8     | 8 |
| 214       | 49  | 56  | 145  | 01  | 06   | 04  | 67 | 09  | 00  | 4221            | 27         | 02         | 10          | 21  |   |     |   | 8     | 8 |
| 215       | 50  | 02  | 145  | 00  | 06   | 04  | 67 | 12  | 00  | 4221            | 25         | 51         | 16          | 22  |   |     |   | X     | 8 |
| 216       | 50  | 03  | 144  | 55  | 06   | 04  | 67 | 15  | 00  | 4221            | 24         | 10         | 15          | 22  |   |     |   | 7     | 8 |
| 217       | 50  | 01  | 144  | 57  | 06   | 04  | 67 | 18  | 00  | 4221            | 24         | 52         | 15          | 22  |   |     |   | 3     | 8 |
| 218       | 49  | 59  | 144  | 59  | 06   | 04  | 67 | 21  | 00  | 4221            | 25         | 52         | 15          | 22  |   |     |   | 3     | 8 |
| 219       | 50  | 00  | 145  | 00  | 07   | 04  | 67 | 00  | 00  | 4221            | 24         | 11         | 15          | 22  |   |     |   | 8     | 8 |
| 220       | 50  | 00  | 145  | 02  | 07   | 04  | 67 | 18  | 00  | 4221            | 26         | 02         | 20          | 22  |   |     |   | 6     | 8 |
| 221       | 50  | 02  | 144  | 57  | 07   | 04  | 67 | 21  | 00  | 4221            | 24         | 02         | 30          | 23  |   |     |   | 6     | 8 |
| 222       | 50  | 03  | 144  | 56  | 09   | 04  | 67 | 21  | 00  | 4221            | 23         | 02         | 20          | 23  |   |     |   | 6     | 8 |
| 223       | 49  | 58  | 144  | 54  | 10   | 04  | 67 | 00  | 00  | 4221            | 23         | 25         | 19          | 22  |   |     |   | 6     | 8 |
| 224       | 49  | 58  | 144  | 38  | 10   | 04  | 67 | 06  | 00  | 4221            | 22         | 54         | 15          | 22  |   |     |   | 6     | 8 |
| 225       | 49  | 55  | 143  | 40  | 10   | 04  | 67 | 09  | 00  | 4221            | 22         | 54         | 30          | 31  |   |     |   | X     | 8 |



TABLE 2

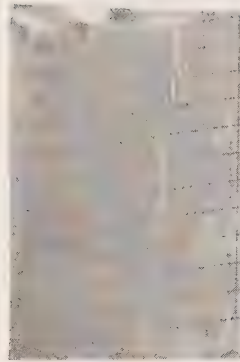
| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 226       | 49  | 49  | 142  | 40  | 10   | 04  | 67 | 13  | 22  | 3910            | 22         | 54         | 00          | XX  | XX |     |   | X     | 8 |
| 227       | 49  | 46  | 141  | 40  | 10   | 04  | 67 | 17  | 30  | 3970            | 23         | 54         | 15          | XX  | XX |     |   | X     | 8 |
| 228       | 49  | 42  | 140  | 40  | 10   | 04  | 67 | 20  | 15  | 3881            | 23         | 02         | 05          | XX  |    | 32  |   | 6     | 8 |
| 229       | 49  | 42  | 139  | 40  | 10   | 04  | 67 | 23  | 24  | 3840            | 23         | 01         | 00          | XX  |    | 54  |   | 6     | 6 |
| 230       | 49  | 35  | 138  | 40  | 11   | 04  | 67 | 02  | 30  | 3890            | 23         | 01         | 00          | XX  |    | 54  |   | 6     | 8 |
| 231       | 49  | 30  | 137  | 40  | 11   | 04  | 67 | 05  | 15  | 3850            | 23         | 02         | 09          | XX  |    | 52  |   | X     | 8 |
| 232       | 49  | 26  | 136  | 40  | 11   | 04  | 67 | 08  | 00  | 3775            | 22         | 02         | 10          | XX  |    | 52  |   | X     | 8 |
| 233       | 49  | 21  | 135  | 41  | 11   | 04  | 67 | 11  | 00  | 3200            | 20         | 02         | 14          | 23  |    | 54  |   | X     | 7 |
| 234       | 49  | 22  | 134  | 40  | 11   | 04  | 67 | 13  | 50  | 3550            | 19         | 02         | 20          | 22  |    | XX  |   | 7     | 8 |
| 235       | 49  | 12  | 133  | 40  | 11   | 04  | 67 | 16  | 30  | 3200            | 18         | 02         | 20          | 24  |    | 54  |   | 7     | 8 |
| 236       | 49  | 07  | 132  | 40  | 11   | 04  | 67 | 19  | 30  | 3275            | 16         | 02         | 20          | 24  |    | 54  |   | X     | 9 |
| 237       | 49  | 02  | 131  | 40  | 11   | 04  | 67 | 22  | 20  | 2875            | 14         | 10         | 21          | 35  |    | 54  |   | 7     | 8 |
| 238       | 49  | 00  | 130  | 40  | 12   | 04  | 67 | 01  | 15  | 2930            | 12         | 53         | 20          | 35  |    | 54  |   | X     | 8 |
| 239       | 48  | 55  | 129  | 40  | 12   | 04  | 67 | 04  | 15  | 2601            | 10         | 53         | 25          | 35  |    | 54  |   | X     | 8 |
| 240       | 48  | 50  | 128  | 40  | 12   | 04  | 67 | 07  | 00  | 2529            | 09         | 53         | 15          | XX  |    | XX  |   | X     | 8 |
| 241       | 48  | 46  | 127  | 40  | 12   | 04  | 67 | 09  | 50  | 2500            | 06         | 55         | 19          | 23  |    | 54  |   | X     | 8 |
| 242       | 48  | 42  | 126  | 40  | 12   | 04  | 67 | 12  | 32  | 1300            | 05         | 55         | 20          | 23  |    | XX  |   | X     | X |



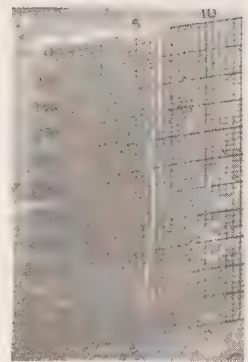
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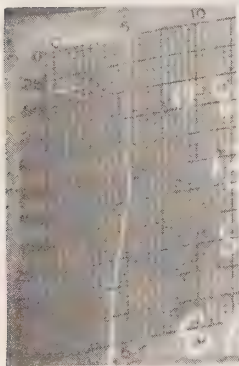
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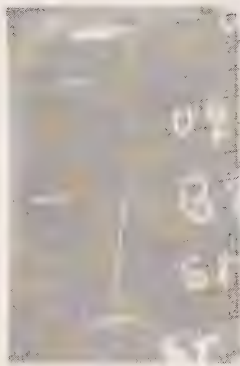
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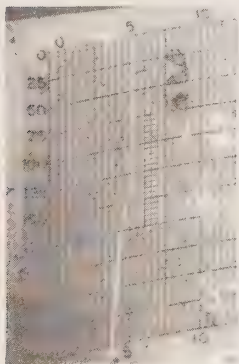
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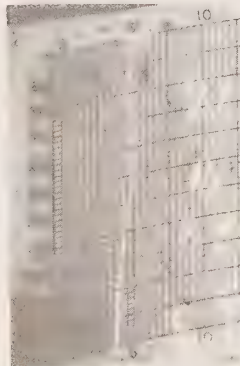
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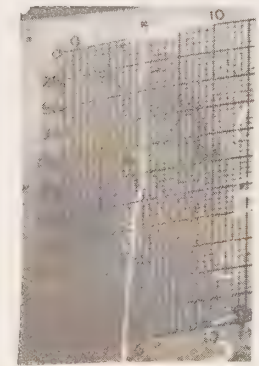
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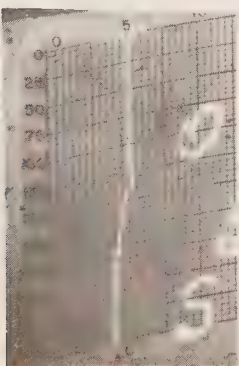
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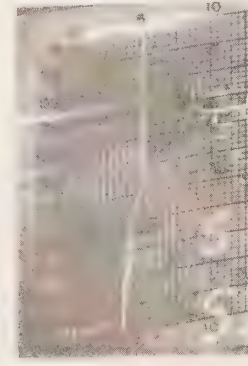
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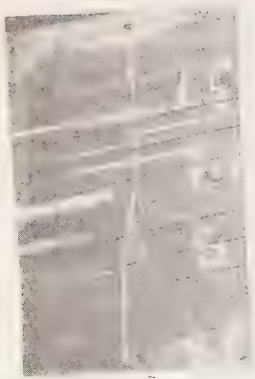
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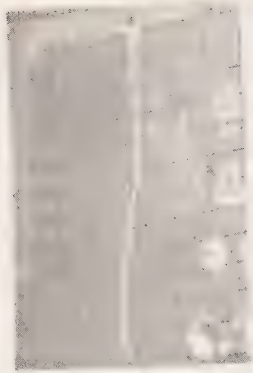
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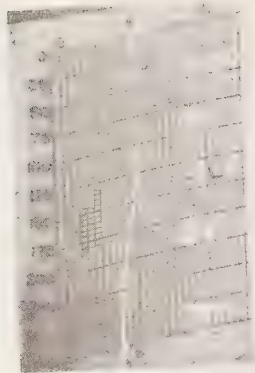
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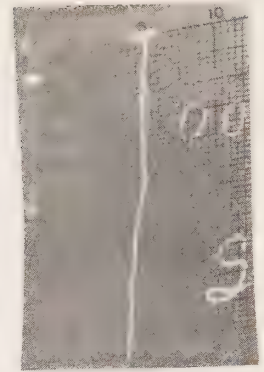
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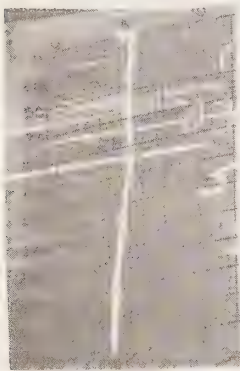
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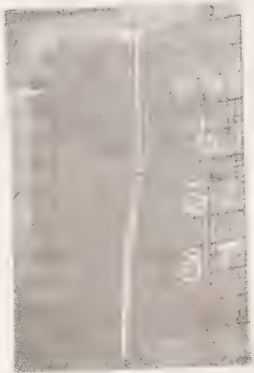
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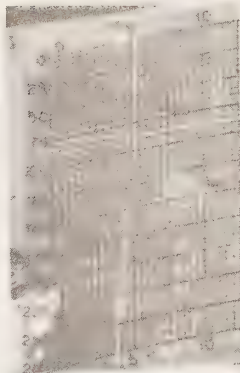
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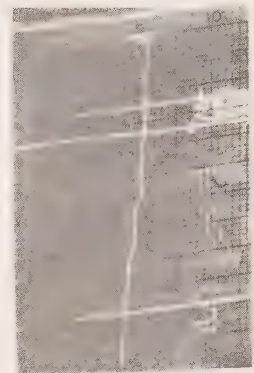
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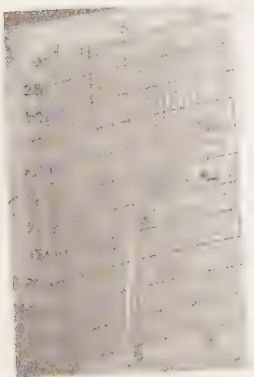
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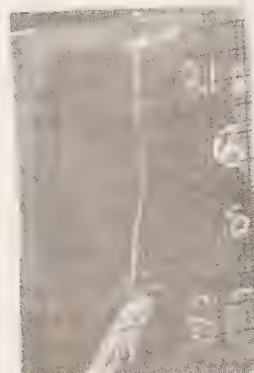
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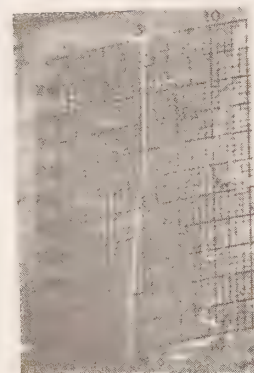
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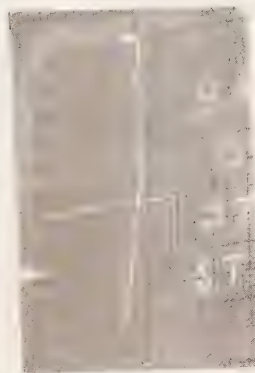
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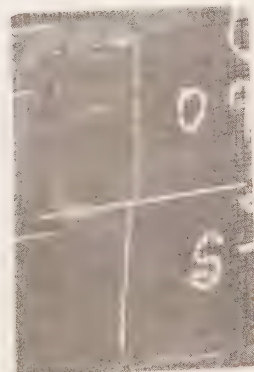
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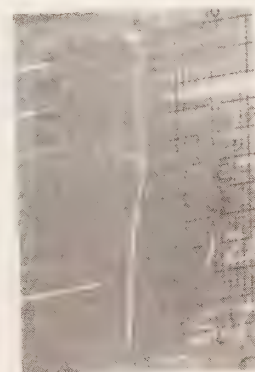
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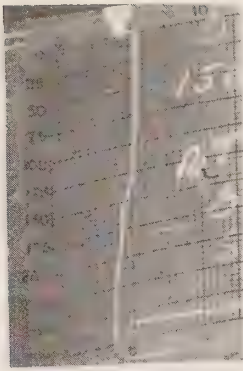


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32





33



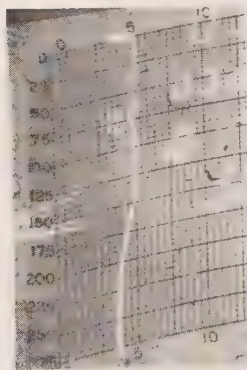
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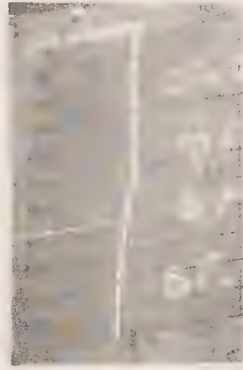
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36



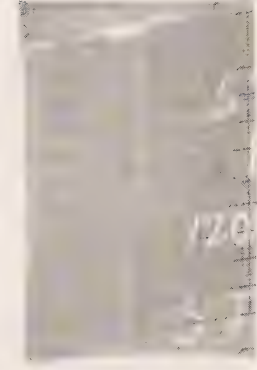
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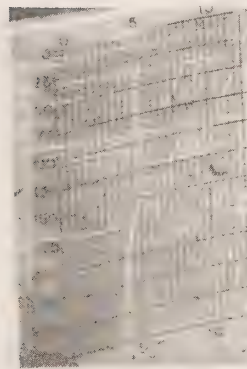
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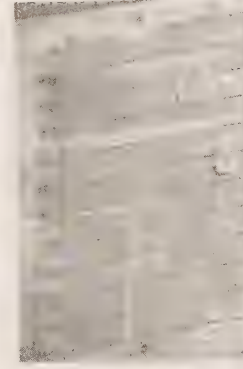
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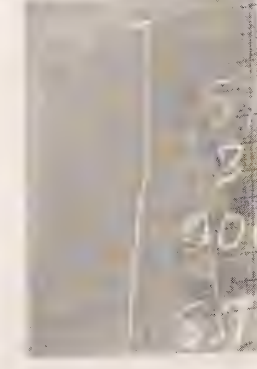
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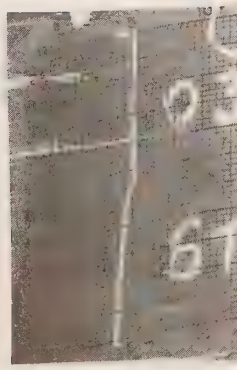
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43



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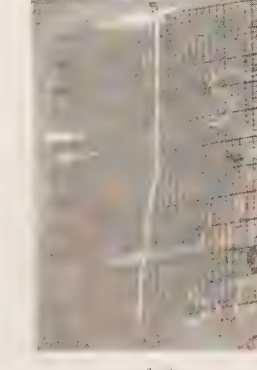
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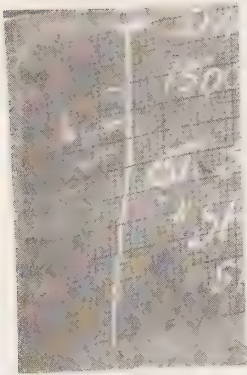
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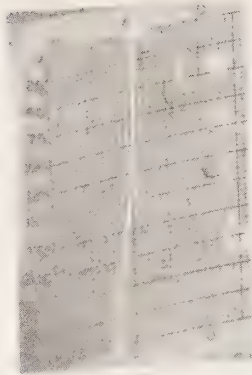
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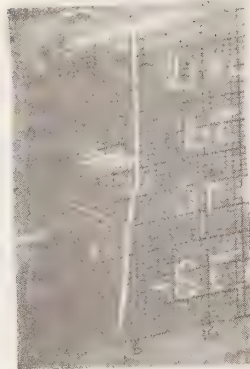
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49



50



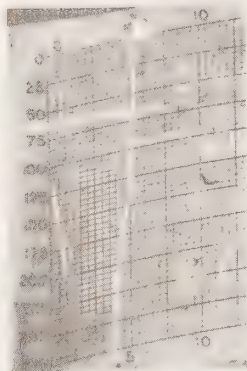
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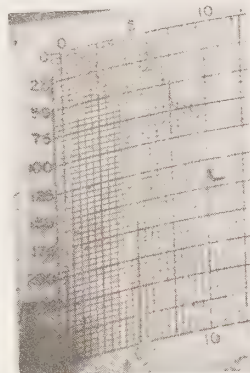
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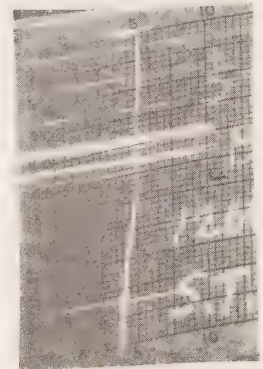
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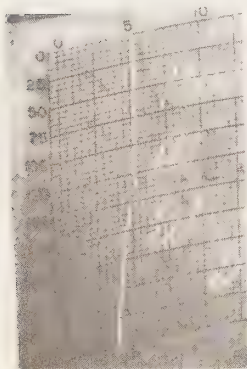
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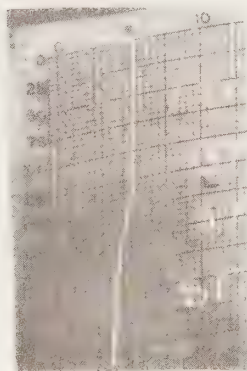
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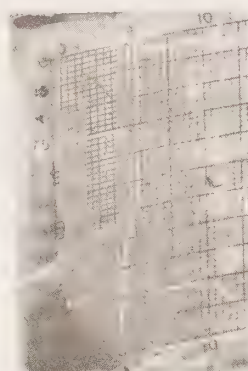
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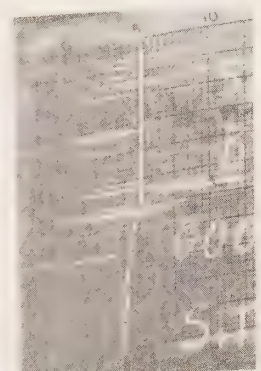
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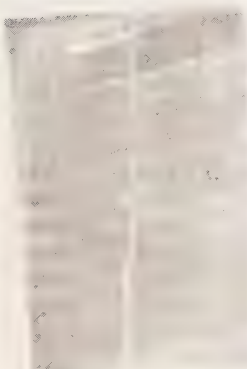
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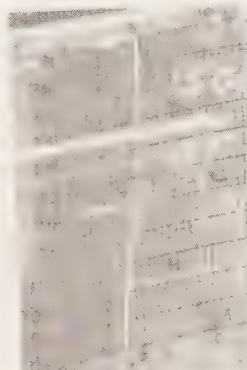
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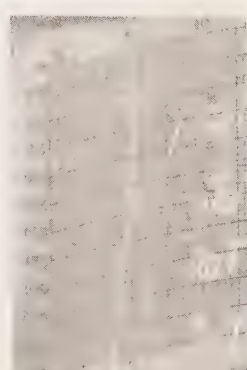
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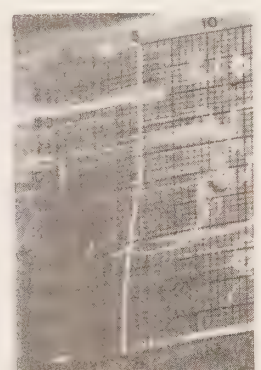
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62

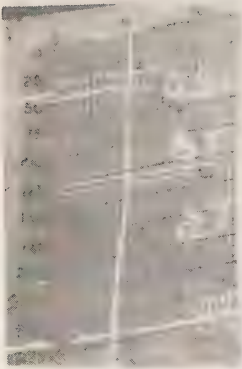


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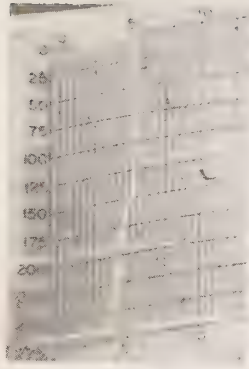


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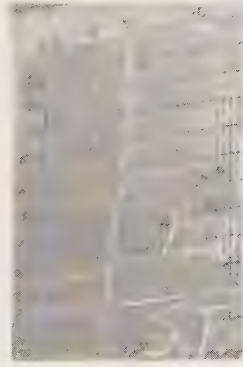




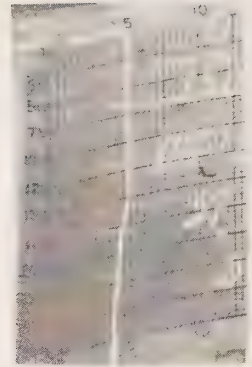
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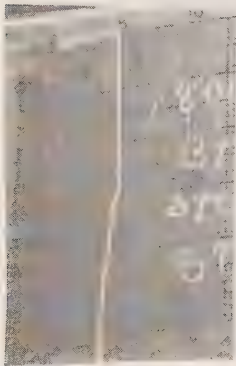
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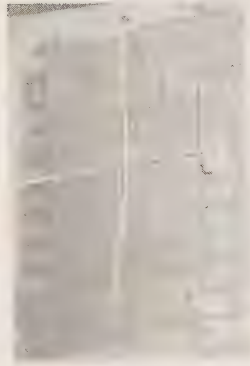
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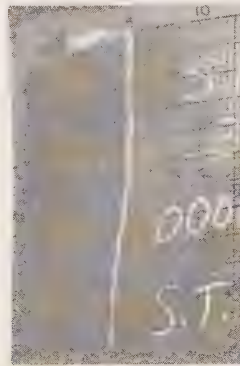
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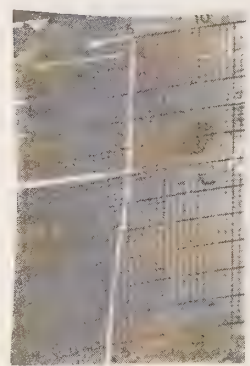
70



71



72



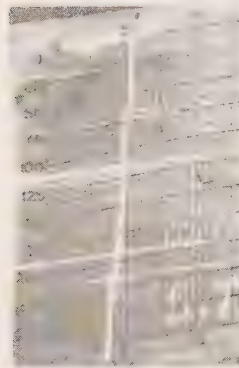
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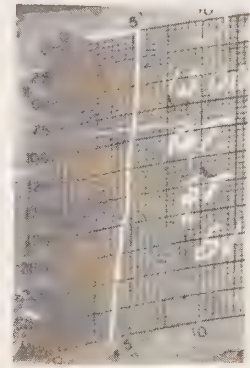
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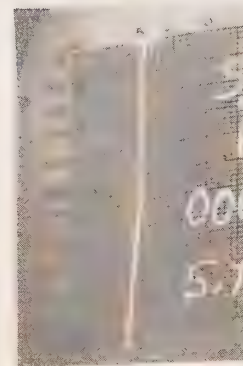
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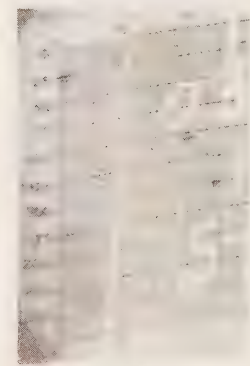
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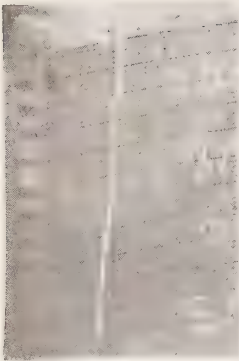
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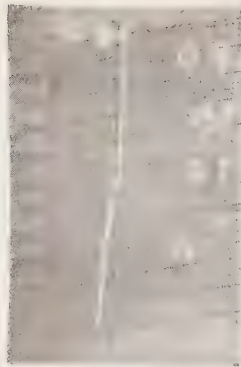
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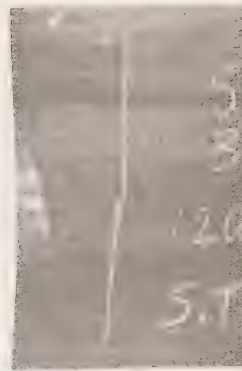
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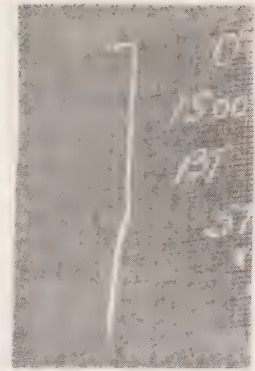
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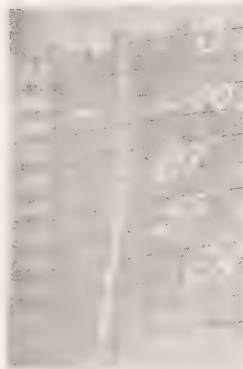
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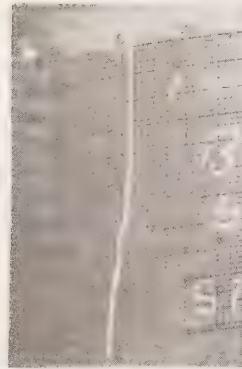
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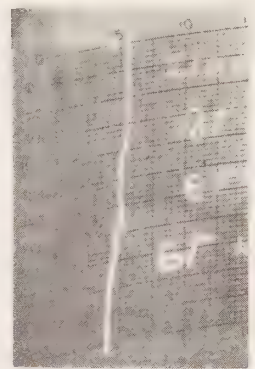
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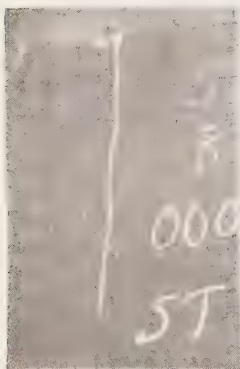
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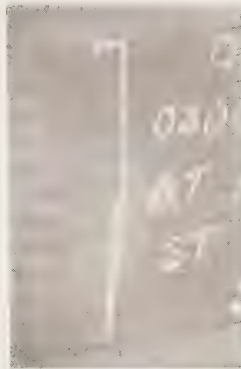
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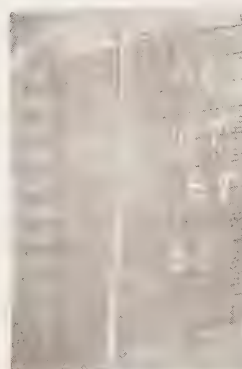
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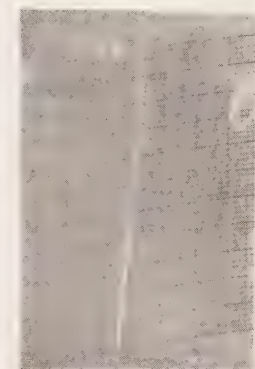
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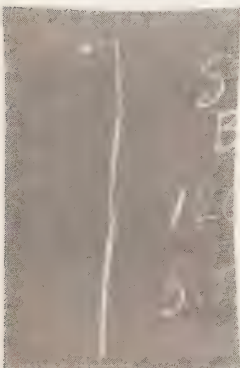
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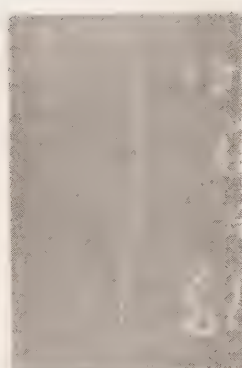
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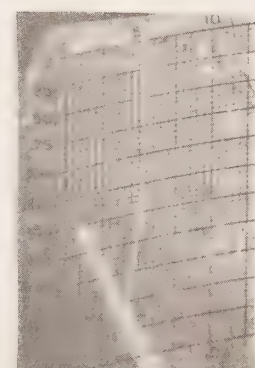
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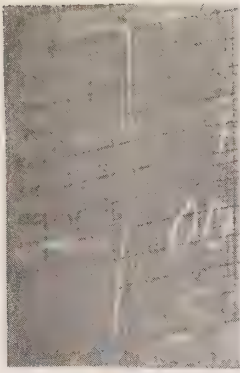


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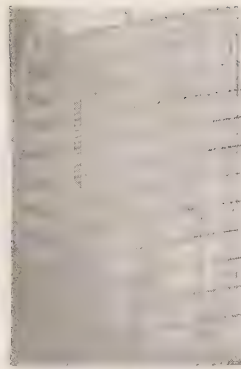




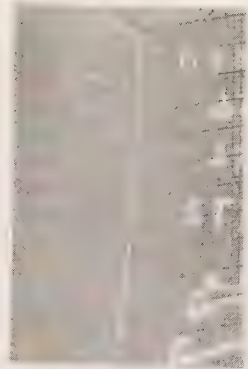
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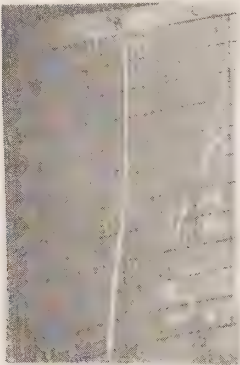
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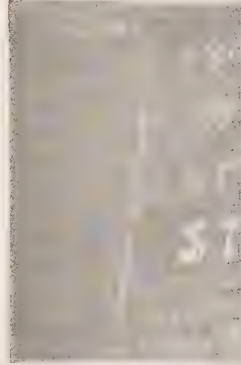
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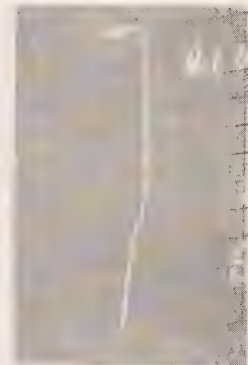
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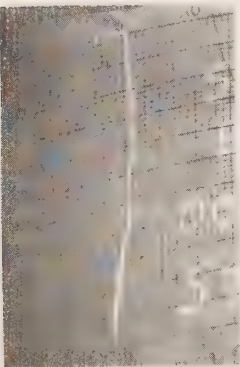
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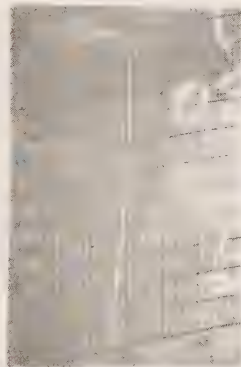
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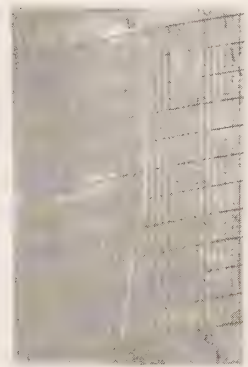
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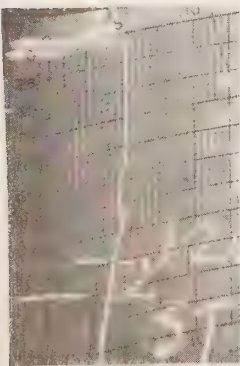
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107



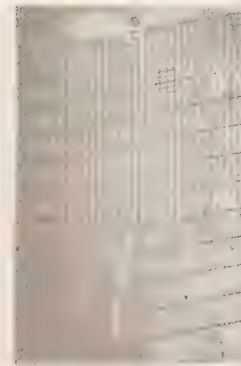
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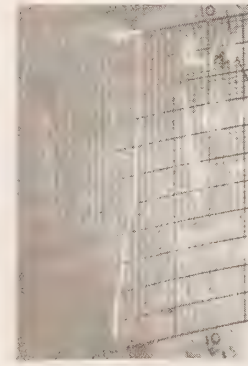
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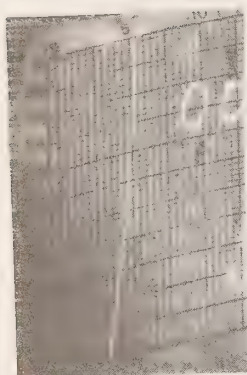
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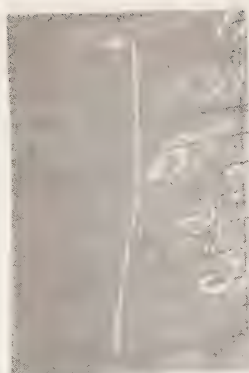
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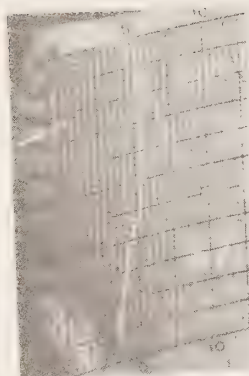
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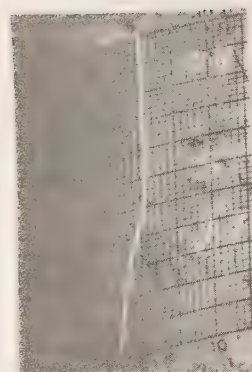
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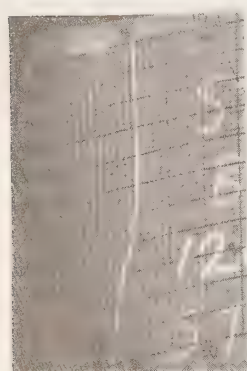
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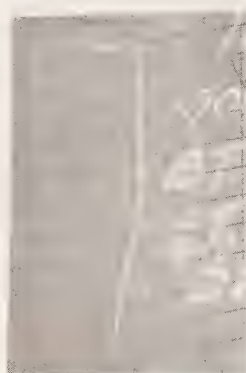
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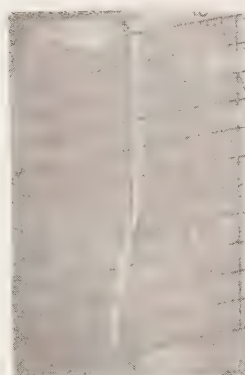
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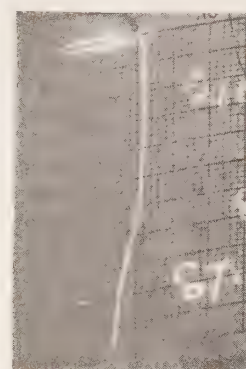
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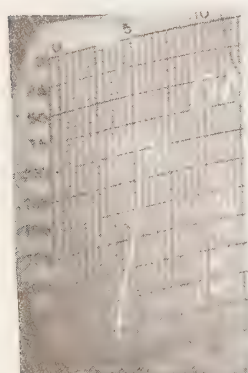
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119



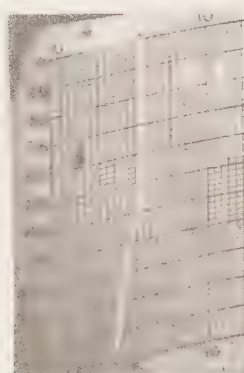
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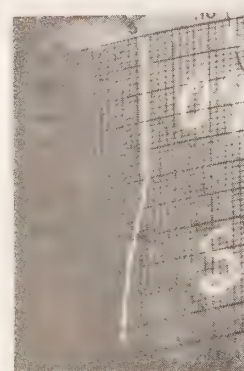
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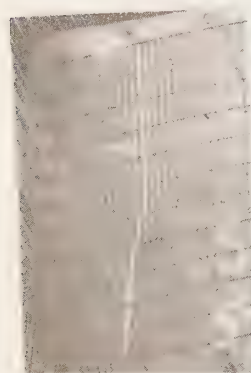
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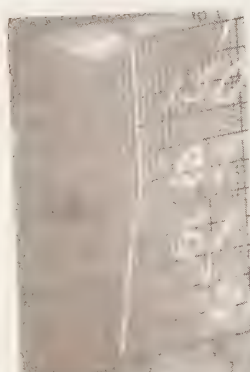
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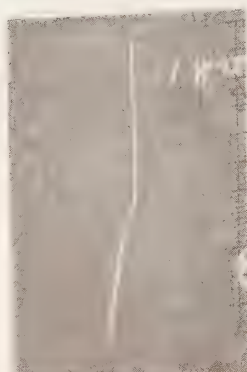
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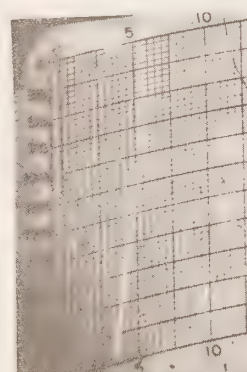
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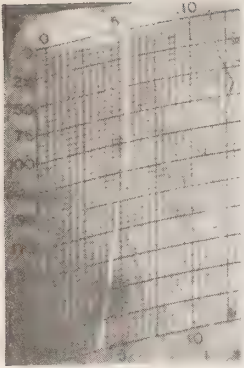


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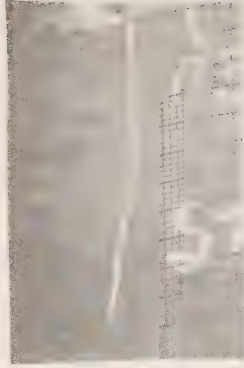


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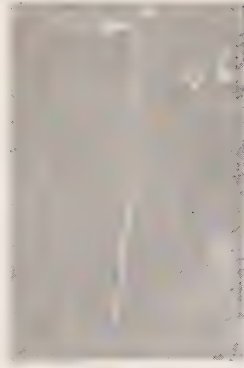




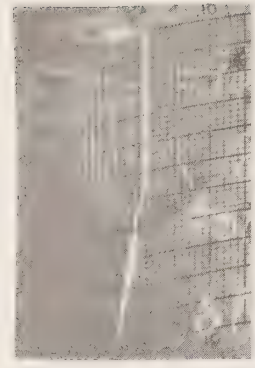
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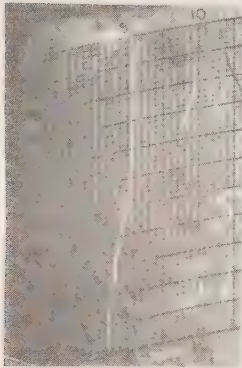
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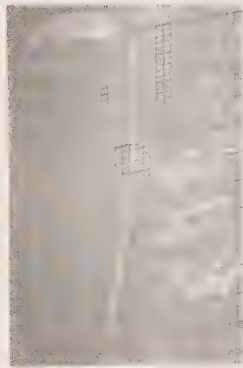
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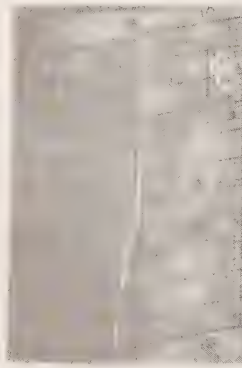
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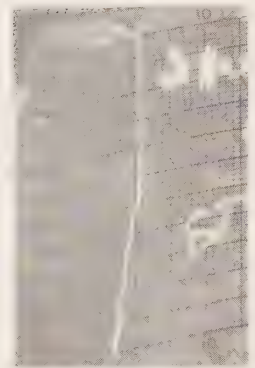
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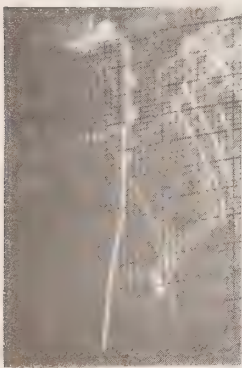
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135



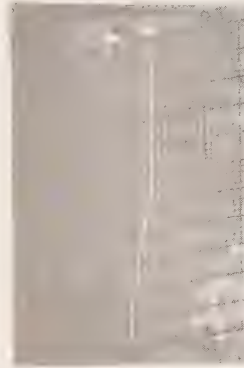
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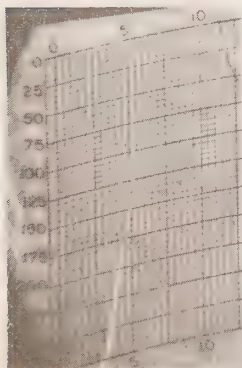
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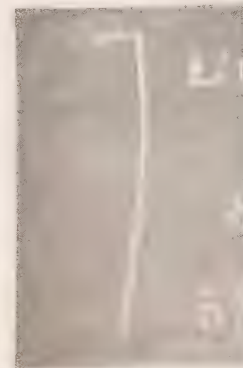
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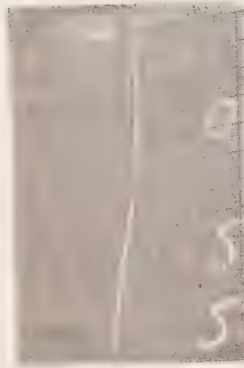
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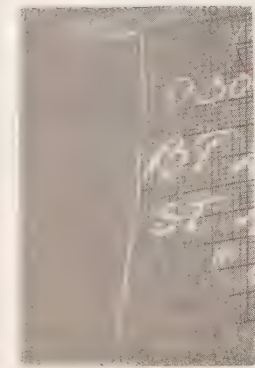
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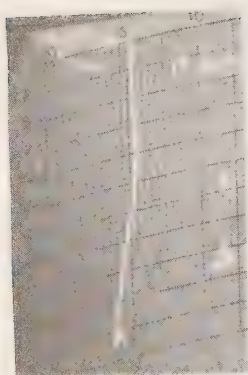


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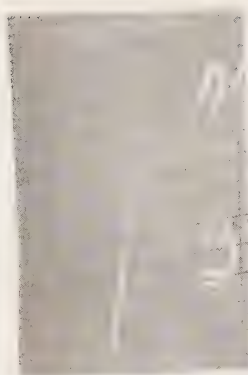


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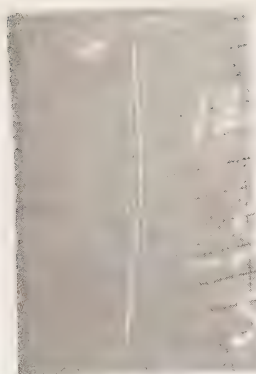




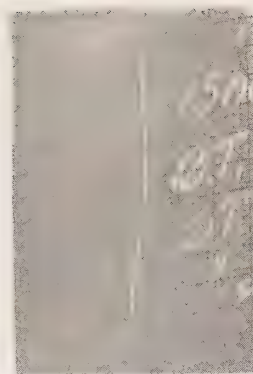
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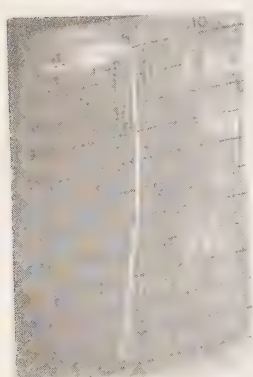
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147



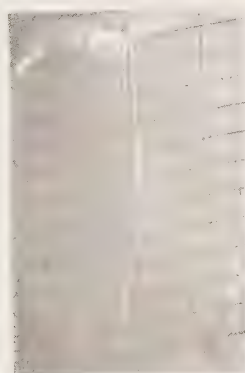
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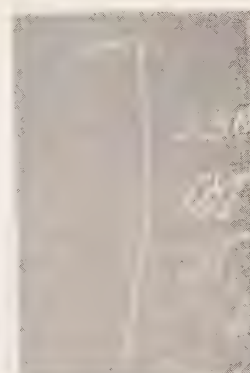
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151



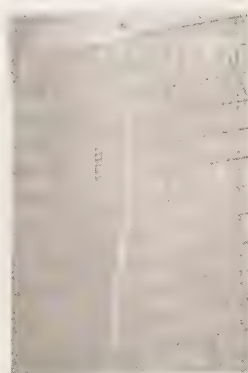
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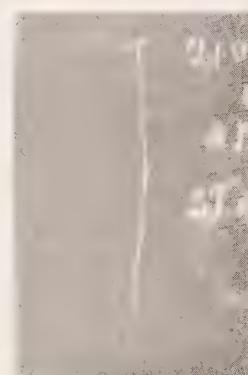
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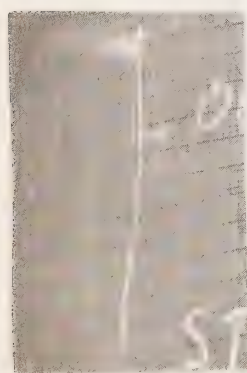
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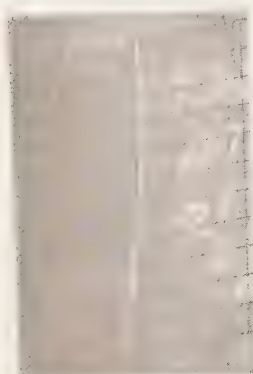
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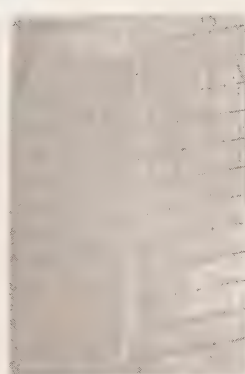
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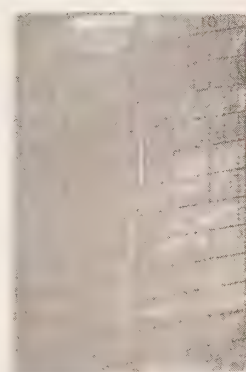
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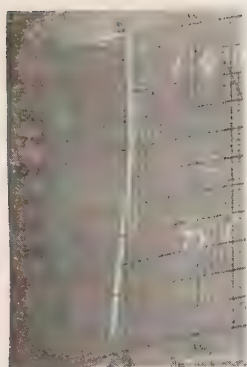
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162



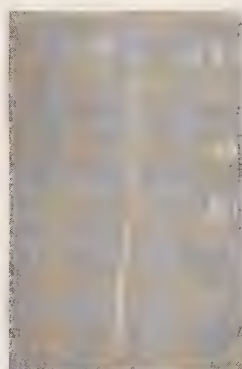
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165



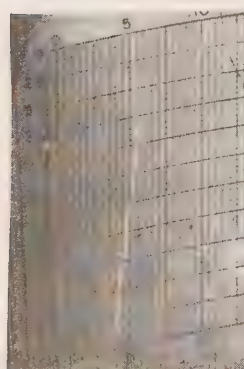
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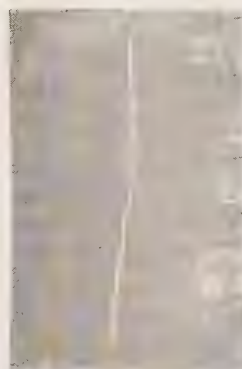
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169



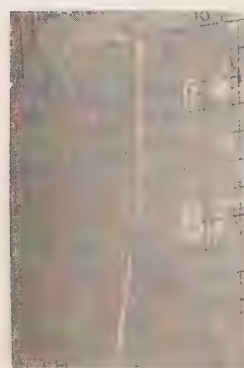
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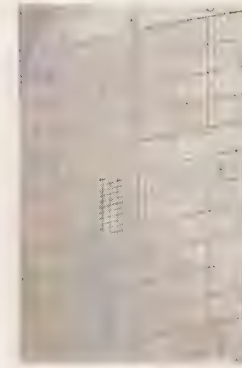
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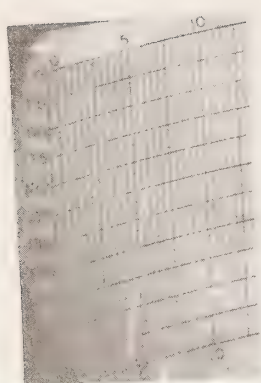
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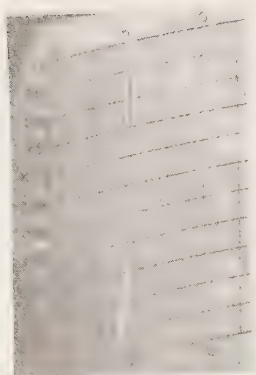
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176



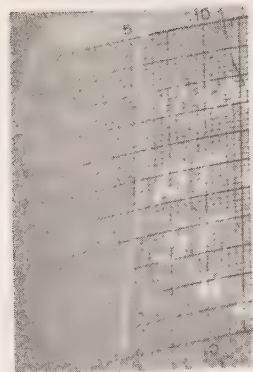
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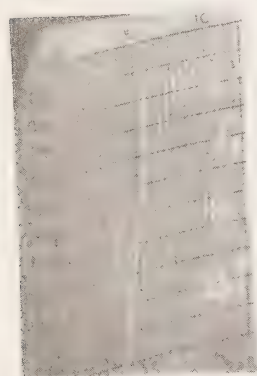
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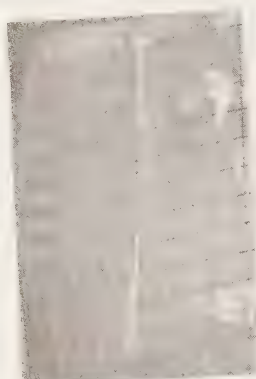
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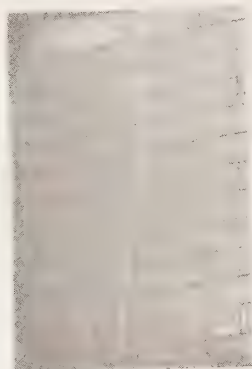
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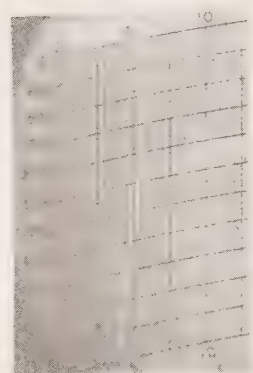
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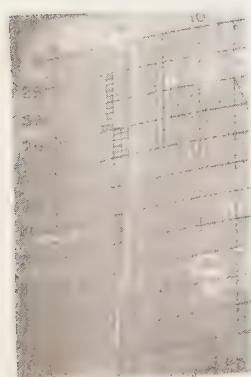
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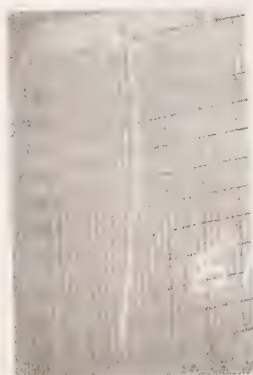
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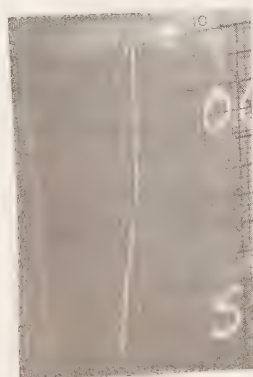
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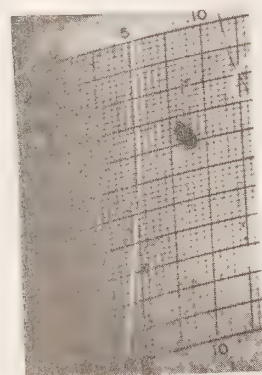
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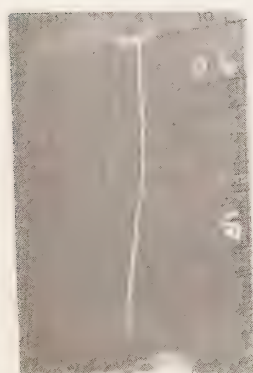
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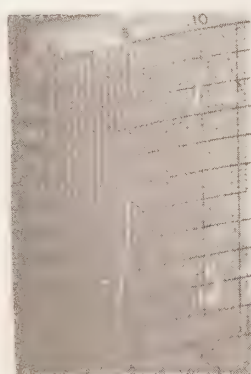
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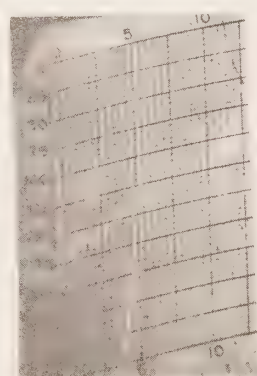
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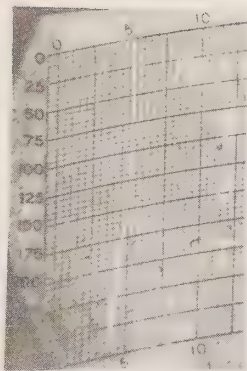


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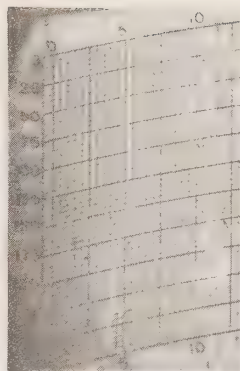




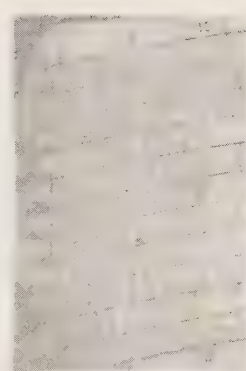
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194



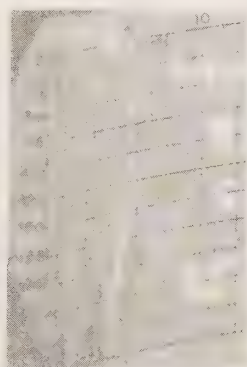
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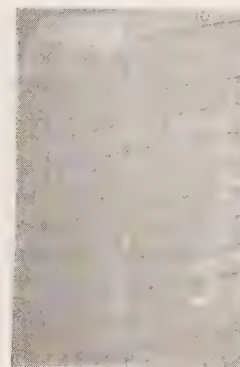
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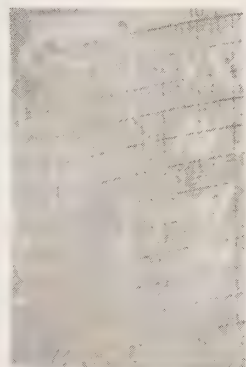
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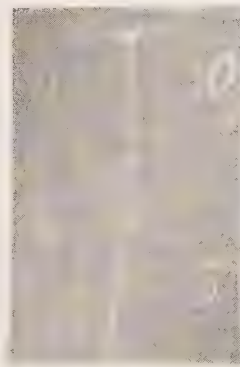
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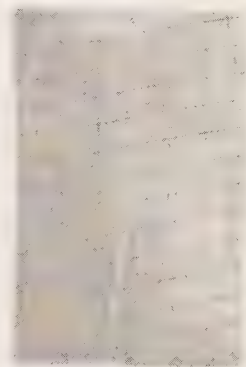
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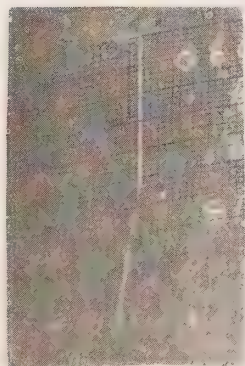
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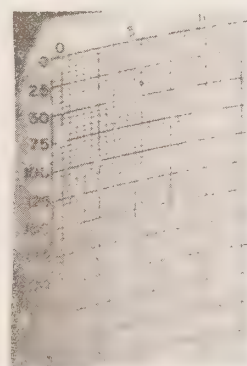
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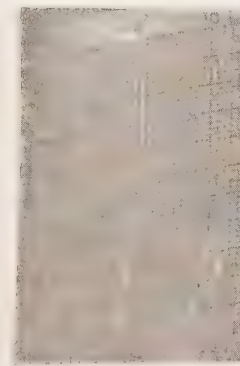
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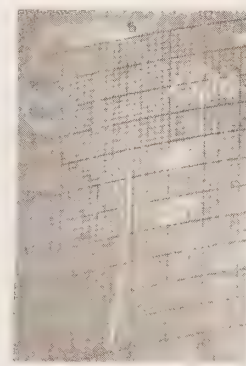
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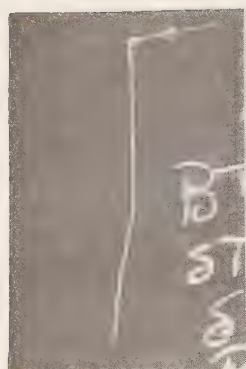
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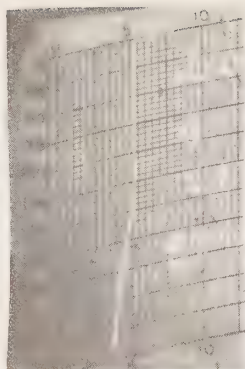
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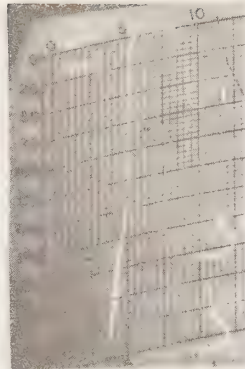
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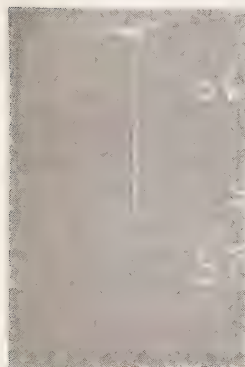
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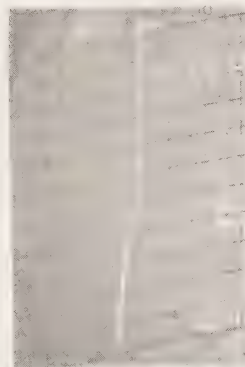
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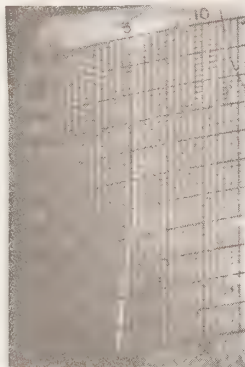
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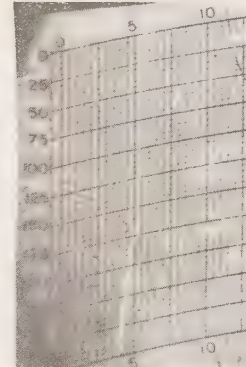
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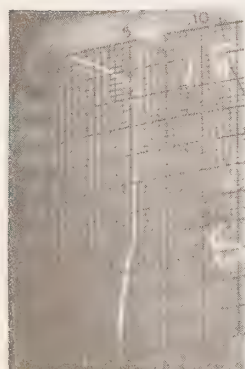
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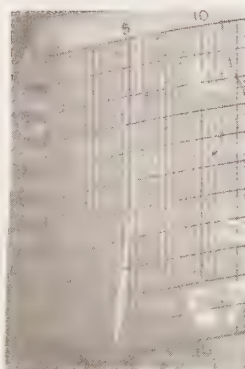
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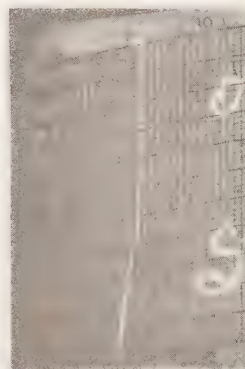
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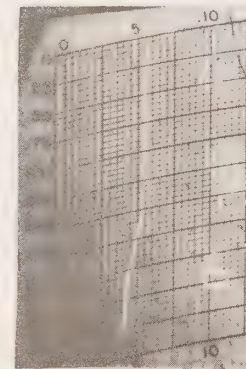
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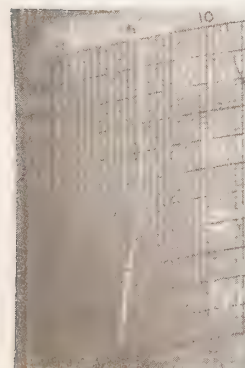
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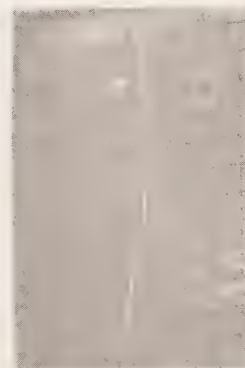
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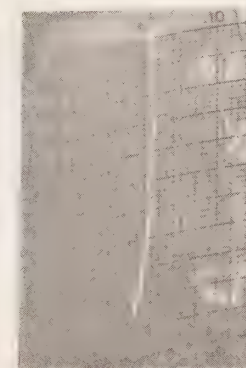
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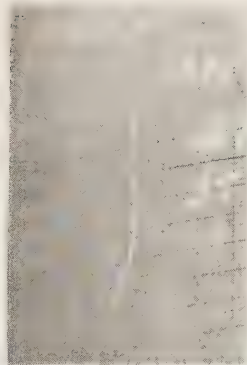


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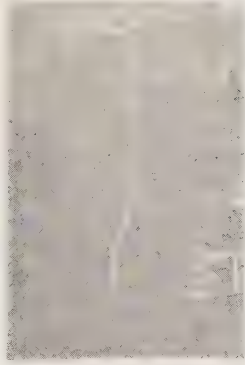




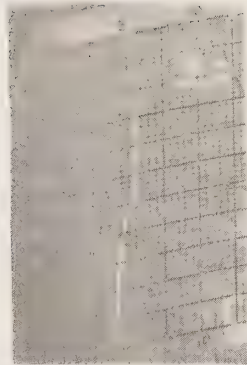
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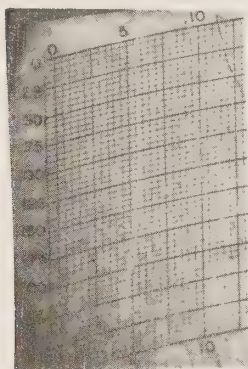
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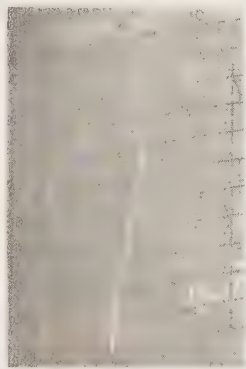
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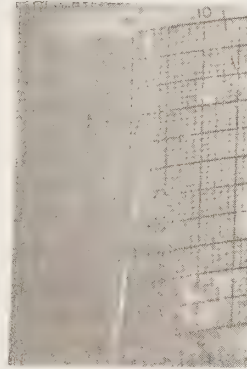
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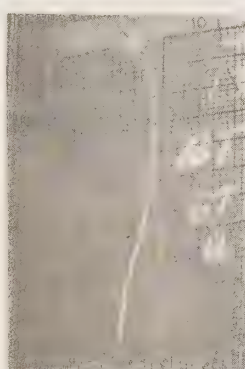
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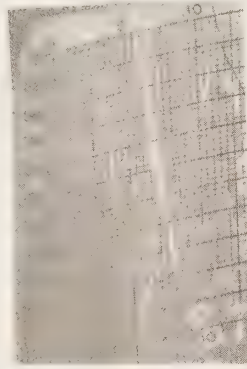
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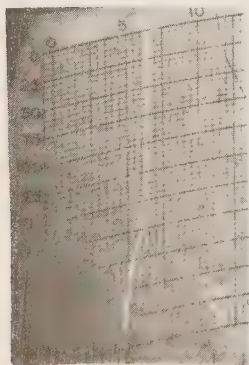
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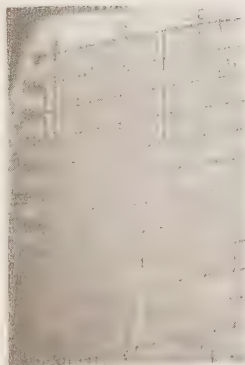
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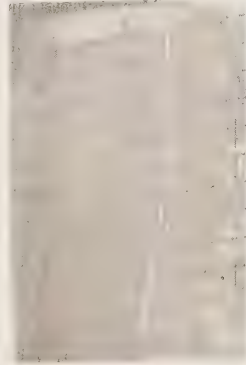
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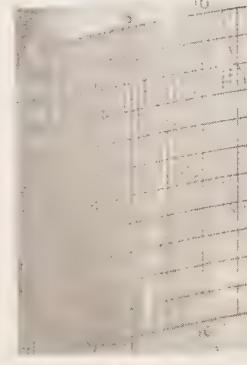
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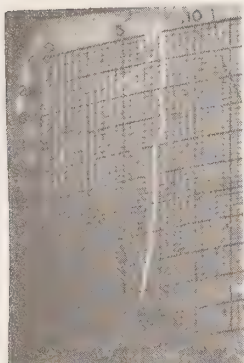
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## SECTION V

### Surface Salinity Data



## Surface Salinity Observations

| Date-Time<br>G.M.T.                  | Position<br>Latitude      Longitude |           | Salinity<br>‰ |
|--------------------------------------|-------------------------------------|-----------|---------------|
| CCGS "St. Catharines", Survey P-67-1 |                                     |           |               |
| 67-01-16-08.5                        | 48°33' n                            | 125°33' w | 30.903        |
| 16-10.2                              | 48°37'                              | 126°00'   | 31.095        |
| 16-12.5                              | 48°43'                              | 126°40'   | 31.579        |
| 16-18.0                              | 48°46'                              | 127°40'   | 32.412        |
| 16-22.0                              | 48°52'                              | 128°40'   | 32.154        |
| 17-02.0                              | 49°02'                              | 129°40'   | 32.337        |
| 17-06.0                              | 49°02'                              | 130°40'   | 32.418        |
| 17-10.0                              | 49°06'                              | 131°20'   | 32.334        |
| 17-13.0                              | 49°10'                              | 132°40'   | 32.428        |
| 17-15.0                              | 49°13'                              | 133°40'   | 32.471        |
| 17-19.5                              | 49°17'                              | 134°40'   | 32.521        |
| 17-23.0                              | 49°20'                              | 135°40'   | 32.663        |
| 18-02.7                              | 49°26'                              | 136°40'   | 32.456        |
| 18-06.0                              | 49°30'                              | 137°40'   | 32.536        |
| 18-11.0                              | 49°39'                              | 138°40'   | 32.518        |
| 18-15.0                              | 49°29'                              | 139°42'   | 32.522        |
| 18-19.5                              | 49°40'                              | 140°40'   | 32.417        |
| 18-23.0                              | 49°50'                              | 141°40'   | 32.280        |
| 20-00.0                              | 49°54'                              | 143°48'   | 32.475        |
| 21-00.0                              | 50°26'                              | 144°56'   | 32.601        |
| 22-00.0                              | 50°12'                              | 145°20'   | 32.605        |
| 23-00.0                              | 49°54'                              | 144°58'   | 32.611        |
| 24-00.0                              | 50°10'                              | 144°51'   | 32.735        |
| 25-00.0                              | 49°55'                              | 145°07'   | 32.626        |
| 26-00.0                              | 49°54'                              | 145°11'   | 32.602        |
| 27-00.0                              | 49°55'                              | 145°07'   | 32.608        |
| 67-01-28-00.0                        | 49°50'                              | 145°08'   | 32.636        |
| 29-00.0                              | 49°52'                              | 144°55'   | 32.614        |
| 30-00.0                              | 49°57'                              | 145°14'   | 32.616        |
| 31-00.0                              | 49°56'                              | 145°04'   | 32.645        |
| 67-02-01-00.0                        | 50°16'                              | 145°22'   | 32.615        |
| 02-00.0                              | 50°01'                              | 145°01'   | 32.598        |
| 03-00.0                              | 49°50'                              | 145°15'   | 32.614        |
| 04-00.0                              | 49°59'                              | 144°50'   | 32.639        |
| 05-00.0                              | 50°03'                              | 144°56'   | 32.644        |
| 06-00.0                              | 50°05'                              | 144°52'   | 32.651        |
| 07-00.0                              | 50°00'                              | 145°02'   | 32.652        |
| 08-00.0                              | 50°00'                              | 145°15'   | 32.626        |
| 09-00.0                              | 49°56'                              | 144°52'   | 32.644        |
| 10-00.0                              | 49°48'                              | 145°08'   | 32.664        |
| 11-00.0                              | 49°59'                              | 144°48'   | 32.650        |
| 12-00.0                              | 49°53'                              | 145°00'   | 32.713        |



## Surface Salinity Observations

| Date-Time                            | Position |           | Salinity |
|--------------------------------------|----------|-----------|----------|
| G.M.T.                               | Latitude | Longitude | ‰        |
| CCGS "St. Catharines", Survey P-67-1 |          |           |          |
| 67-02-13-00.0                        | 49°49' n | 144°50' w | 32.682   |
| 14-00.0                              | 50°03'   | 145°25'   | 32.735   |
| 15-00.0                              | 50°01'   | 145°22'   | 32.699   |
| 16-00.0                              | 50°03'   | 144°56'   | 32.784   |
| 17-00.0                              | 49°57'   | 145°52'   | 32.636   |
| 18-00.0                              | 50°09'   | 145°32'   | 32.786   |
| 19-00.0                              | 50°09'   | 144°58'   | 32.618   |
| 20-00.0                              | 50°10'   | 145°06'   | 32.688   |
| 21-00.0                              | 50°03'   | 145°02'   | 32.634   |
| 22-00.0                              | 49°55'   | 144°53'   | 32.645   |
| 23-00.0                              | 50°03'   | 144°58'   | 32.629   |
| 24-00.0                              | 50°10'   | 145°17'   | 32.752   |
| 25-00.0                              | 50°05'   | 145°12'   | 32.653   |
| 26-00.0                              | 50°07'   | 144°58'   | 32.607   |
| 27-00.0                              | 49°49'   | 144°36'   | 32.543   |
| 27-23.7                              | 49°45'   | 141°40'   | 32.634   |
| 28-02.5                              | 49°41'   | 140°40'   | 32.565   |
| 28-05.5                              | 49°37'   | 139°40'   | 32.527   |
| 28-08.5                              | 49°34'   | 138°40'   | 32.560   |
| 28-11.7                              | 49°30'   | 137°40'   | 32.591   |
| 67-02-28-14.8                        | 49°26'   | 136°40'   | 32.553   |
| 28-18.0                              | 49°21'   | 135°40'   | 32.619   |
| 28-21.2                              | 49°17'   | 134°40'   | 32.558   |
| 28-23.8                              | 49°12'   | 133°40'   | 32.551   |
| 67-03-01-07.0                        | 49°07'   | 131°40'   | 32.441   |
| 01-09.5                              | 49°02'   | 130°40'   | 32.481   |
| 01-12.2                              | 48°56'   | 129°40'   | 32.425   |
| 01-17.0                              | 48°47'   | 127°40'   | 32.342   |
| 01-22.0                              | 48°42'   | 126°46'   | 32.217   |
| 02-00.2                              | 48°38'   | 126°00'   | 31.582   |
| 02-01.7                              | 48°33'   | 125°33'   | 31.588   |

## Surface Salinity Observations

| Date-Time                       | Position |           | Salinity |
|---------------------------------|----------|-----------|----------|
| G.M.T.                          | Latitude | Longitude | ‰        |
| CCGS "Stonetown", Patrol No. 73 |          |           |          |
| 67-03-01-00.0                   | 49°58'n  | 145°01'w  | 32.660   |
| 02-00.0                         | 50°00'   | 145°00'   | 32.689   |
| 03-00.0                         | 49°56'   | 144°57'   | 32.642   |
| 04-00.0                         | 50°05'   | 144°56'   | 32.625   |
| 05-00.0                         | 50°01'   | 145°00'   | 32.660   |
| 06-00.0                         | 50°00'   | 145°00'   | 32.616   |
| 07-00.0                         | 50°07'   | 144°58'   | 32.570   |
| 08-00.0                         | 49°58'   | 144°50'   | 32.748   |
| 09-00.0                         | 49°57'   | 144°56'   | 32.847   |
| 10-00.0                         | 49°57'   | 145°02'   | 32.639   |
| 11-00.0                         | 49°55'   | 145°00'   | 32.564   |
| 12-00.0                         | 50°00'   | 145°05'   | 32.730   |
| 13-00.0                         | 50°01'   | 145°04'   | 32.565   |
| 14-00.0                         | 49°50'   | 145°01'   | 32.830   |
| 15-00.0                         | 49°55'   | 145°00'   | 32.551   |
| 16-00.0                         | 49°58'   | 145°00'   | 32.994   |
| 17-00.0                         | 50°00'   | 145°00'   | 32.893   |
| 18-00.0                         | 49°52'   | 145°03'   | 32.552   |
| 20-00.0                         | 49°58'   | 144°57'   | 32.743   |
| 21-00.0                         | 50°05'   | 145°00'   | 32.709   |
| 22-00.0                         | 49°57'   | 144°58'   | 32.669   |
| 23-00.0                         | 49°58'   | 145°06'   | 32.629   |
| 24-00.0                         | 50°02'   | 145°03'   | 32.646   |
| 25-00.0                         | 49°56'   | 145°00'   | 32.713   |
| 26-00.0                         | 49°56'   | 144°51'   | 32.708   |
| 27-00.0                         | 50°00'   | 145°04'   | 32.616   |
| 28-00.0                         | 50°03'   | 145°11'   | 32.829   |
| 29-00.0                         | 50°01'   | 145°05'   | 32.744   |
| 30-00.0                         | 49°59'   | 145°01'   | 32.502   |
| 31-00.0                         | 50°03'   | 144°57'   | 32.698   |
| 67-04-01-00.0                   | 49°58'   | 144°57'   | 32.691   |
| 02-00.0                         | 50°07'   | 144°57'   | 32.674   |
| 03-00.0                         | 50°04'   | 144°57'   | 32.677   |
| 04-00.0                         | 50°00'   | 145°00'   | 32.749   |
| 05-00.0                         | 50°00'   | 145°00'   | 32.660   |
| 06-00.0                         | 50°00'   | 144°58'   | 32.671   |
| 07-00.0                         | 50°00'   | 145°00'   | 32.594   |
| 08-00.0                         | 50°02'   | 144°57'   | 32.741   |
| 09-00.0                         | 50°03'   | 144°58'   | 32.815   |
| 10-00.0                         | 49°58'   | 144°54'   | 32.744   |

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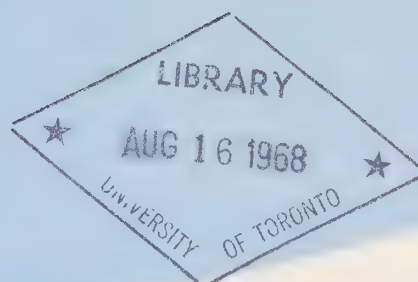
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# GULF OF ST. LAWRENCE

November 16 to November 27, 1967

No. 3

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**CODC Reference: 10-67-008**

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**615 Booth St., Ottawa, Canada**

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DEPARTMENT OF ENERGY, MINES AND RESOURCES

MARINE SCIENCES BRANCH

GULF OF ST. LAWRENCE

|                           |   |
|---------------------------|---|
| Ship:                     | CNAV "Sackville"  |
| Local cruise designation: | BIO 3667  |
| Cruise period:            | November 16 - November 27, 1967                             |
| Officer-in-Charge:        | T.R. Foote  |
| Observers:                | E.A. Lewis<br>W.G. Warshick<br>E.F. MacDonald<br>E.A. Verge |

ATLANTIC OCEANOGRAPHIC LABORATORY  
BEDFORD INSTITUTE, Dartmouth, N.S.





## SECTION I

Description of data collection procedures





"SACKVILLE"

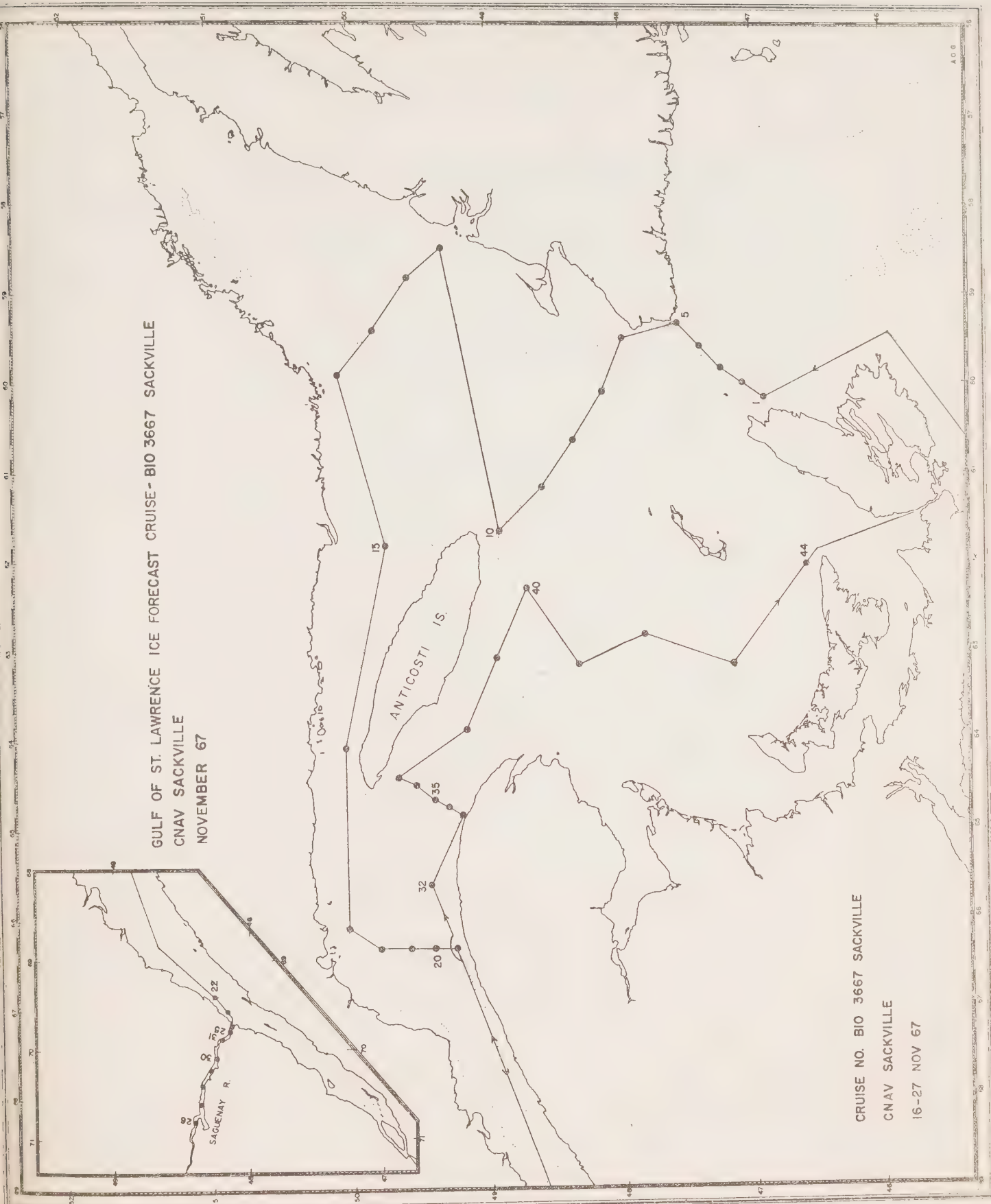
Fisheries Research Board





GULF OF ST. LAWRENCE ICE FORECAST CRUISE - BIO 3667 SACKVILLE  
CNAV SACKVILLE  
NOVEMBER 67

CRUISE NO. BIO 3667 SACKVILLE  
CNAV SACKVILLE  
16-27 NOV 67





## INTRODUCTION

The primary purpose of the cruise was to sample temperatures and salinities in the upper 250 metres at representative stations throughout the Gulf of St. Lawrence, and thus to provide the temperature - salinity data with which the Ice Forecast Central Office of the Department of Transport prepared their ice forecast for the 1967-68 winter season in the Gulf.

The secondary purpose was to extend the ice forecast coverage to include oceanographic stations in the Saguenay River Estuary in order to obtain information on the oxygen content of the deep estuary water.

## EXTRACT OF CRUISE LOG

|                        |                   |
|------------------------|-------------------|
| Depart Dartmouth, N.S. | November 16, 1967 |
| Arrive Dartmouth, N.S. | November 27, 1967 |

## OBSERVATIONAL PROCEDURES

Temperature and salinity data were collected in single casts at 34 stations throughout the Gulf of St. Lawrence and at 10 stations in the Saguenay River Estuary. Samples were drawn for oxygen analysis from the Estuary stations only. Standard sampling procedures and depths were used with an additional depth at 40 metres for the Gulf stations, as requested by Ice Central. Two protected Richter and Wiese thermometers were used on Knudsen type sampling bottles at 200 metres and deeper.

Water samples were measured for salinity on board by the conductivity bridge method (Auto-Lab salinometer).

Dissolved oxygen was determined by the modified Winkler method (Strickland and Parsons 1960).

Weather observations were made each hour by the ship's officers.

Bathythermograph lowerings were made just prior to the oceanographic casts. The B.T. slides and records were processed at the Canadian Oceanographic Data Centre.

PERSONNEL

At Sea:

|                |                   |
|----------------|-------------------|
| T.R. Foote     | Officer-in-Charge |
| E.A. Lewis     |                   |
| W.G. Warshick  |                   |
| E.F. MacDonald |                   |
| E.A. Verge     |                   |
| R. Hill        |                   |

Data Analysis:

|                         |            |
|-------------------------|------------|
| Compilation of Data     | T.R. Foote |
| Salinity Determinations | E.A. Verge |

## SECTION II

Description of the machine-generated data record





## INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch-cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. When interpolations are carried out, additional derived values are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an "estimate of precision" for each observed variable selected for interpolation at standard oceanographic depths. The precision depends on the instrument and/or technique used to determine the variable. A standard precision stated as a **standard deviation** ( $\sigma$ ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under "GENERAL INFORMATION" in section III of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e.,  $1\sigma = A$ ,  $2\sigma = B$ , etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an "**interpolation error estimate**" derived from the particular interpolation formula used. There are two purposes in stating the error estimates; first, to give an indication of the quality of the interpolated data; second, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable ( $T$ ,  $S$ ,  $O_2$ ) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the "measurement error estimate" comprises the "**combined measurement and interpolation error estimate**". It is expressed as a multiple of the standard deviation of measurement ( $\sigma$ ) under normal routine field conditions by:

# CANADIAN OCEANOGRAPHIC DATA CENTRE

|                |  |                          |  |                          |  |                          |  |                             |  |            |  |                  |  |                         |  |
|----------------|--|--------------------------|--|--------------------------|--|--------------------------|--|-----------------------------|--|------------|--|------------------|--|-------------------------|--|
| 1 IDENT. CODE  |  | 2 LATITUDE (N=+)         |  | 3 LONGITUDE (W=+)        |  | 5 DATE                   |  | 6 TIME                      |  | 7 DEPTH    |  | 9 NO.            |  | VESSEL                  |  |
| COUNTRY INST.  |  | DEG. MIN. $\frac{1}{10}$ |  | DEG. MIN. $\frac{1}{10}$ |  | YEAR MONTH DAY           |  | HOURS G.M.T. $\frac{1}{10}$ |  | TO BOTTOM  |  | DEPTHS           |  | ENTERED BY CHECKED BY   |  |
| COLOUR TRANS.  |  | WAVES I                  |  | WAVES II                 |  | BAROMETER                |  | WET BULB                    |  | W.W. CODE  |  | HOURS AFTER H.W. |  | UNASSIGNED              |  |
| DW DP PWHW     |  | DW DP Pw HW              |  | DIR. DIR.                |  | AIR TEMP. $\frac{1}{10}$ |  | WET BULB $\frac{1}{10}$     |  | (SEPT. 62) |  |                  |  | CRUISE REFERENCE NUMBER |  |
| CONSEC. NUMBER |  |                          |  |                          |  |                          |  |                             |  |            |  |                  |  |                         |  |

|                             |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
|-----------------------------|--|-------------------|--|---------------|--|------------|--|------------|--|------------|--|--------------|--|---------------|--|---------------------|--|---------------|--|----------------------------|--|-------------------|--|
| 5 TIME                      |  | 7 DEPTH OF SAMPLE |  | 8 TEMPERATURE |  | 9 SALINITY |  | 10 DENSITY |  | 11 TOTAL P |  | 12 W.W. CODE |  | 13 CLOUD TYPE |  | 14 HOURS AFTER H.W. |  | 15 UNASSIGNED |  | 16 CRUISE REFERENCE NUMBER |  | 17 CONSEC. NUMBER |  |
| HOURS G.M.T. $\frac{1}{10}$ |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 1                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 2                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 3                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 4                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 5                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 6                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 7                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 8                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 9                           |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 10                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 11                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 12                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 13                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 14                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 15                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 16                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 17                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 18                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 19                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |
| 20                          |  |                   |  |               |  |            |  |            |  |            |  |              |  |               |  |                     |  |               |  |                            |  |                   |  |

OBSERVED CARD

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left( \frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

$\sigma$  = Standard deviation of the combined error estimates at standard oceanographic depth,

$\Delta V_i$  = the interpolation error estimate of variable "V" at standard oceanographic depth =  $1/3 (V_{i_1} - V_{i_2})$

$\gamma$  = Interpolation polynomial coefficient.

$Z_j$  = Observed depth.

$Z_i$  = Standard oceanographic depth, such that:  $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction  $\frac{\sigma_i}{\sigma}$ , if  $\geq 2$ , is reported in this Data Record following the interpolated variable. It represents the **combined measurement and interpolation error estimate**. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the **interpolation error estimate** is given only when  $\frac{\sigma_i}{\sigma} \geq 2$  (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

## EXPLANATION OF DATA RECORD HEADINGS

## MASTER HEADINGS

|              |           |               |              |              |          |
|--------------|-----------|---------------|--------------|--------------|----------|
| (1) C-REF-NO | (6) YR    | (11) DEPTH    | (16) WAVES 1 | (21) AIR T   | (26) VIS |
| (2) CONS. NO | (7) MONTH | (12) MXSAMPD  | (17) WAVES 2 | (22) WET B   | (27) STN |
| (3) LAT      | (8) DAY   | (13) NO. DPTH | (18) WND-DIR | (23) WW-CODE |          |
| (4) LON      | (9) HR    | (14) W-COLOR  | (19) WND-FCE | (24) CLD-TPE |          |
| (5) MARSD SQ | (10) C/I  | (15) W-TRNSP  | (20) BARO    | (25) CLD-AMT | (28) HW  |

## (1) CRUISE REFERENCE NUMBER:

Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the CRN was a number designated by CODC.

## (2) CONSECUTIVE NUMBER:

Indicates the chronological order in which the stations were occupied.

## (3) LATITUDE:

Indicate the position of the platform at the time of observation.

## (4) LONGITUDE:

## (5) MARSDEN SQUARE: Designates the geographic area code of the observation (see Marsden square chart).

## (6) YEAR:

## (7) MONTH:

## (8) DAY:

## (9) HOUR:

The time (Greenwich Mean Time) at which the surface environmental data were recorded. It is reported to tenths of hours (Table 1).  
If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.

## (10) COUNTRY/INSTITUTE:

The International Geophysical Year (IGY) Country Code/Institute Code - see Table 11.

## (11) DEPTH:

The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section III. Charted depths are preceded by the letter "C".

## (12) MAXIMUM

SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).

00 m - 50 m = 00

51 m - 150 m = 01

151 m - 250 m = 02

etc.



- (13) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch-cards).
- (14) WATER COLOUR: A code based on the percentage of yellow (see table 2 and Note under FIELD "15" below).
- (15) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section III of the data record will state which method was used.
- (16) WAVES 1  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the **wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (17) WAVES 2  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the predominant **non-wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (18) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing (wind direction 990 means:—wind variable or direction unknown).
- (19) WIND FORCE  
(WND-FCE): Beaufort notation (See Table 6).
- WIND SPEED  
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section III.
- (20) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section III of the data record will state the type of instrument used.
- (21) AIR TEMPERATURE: In degrees Celsius.
- (22) WET BULB: In degrees Celsius.
- (23) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (24) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (25) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (26) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (27) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (28) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

## OBSERVED DATA HEADINGS

|           |            |          |             |             |              |
|-----------|------------|----------|-------------|-------------|--------------|
| (1) GMT   | (2) DEPTH  | (3) TEMP | (4) SAL     | (5) OXYGEN  | (6) SGMT     |
| (7) SOUND | (8) $PO_4$ | (9) -P-  | (10) $NO_2$ | (11) $NO_3$ | (12) $SiO_3$ |
|           |            |          |             | (13) pH.    |              |

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

(1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.

When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.

(2) DEPTH: The depth in metres at the reversal time of deepest cast.

(3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of section III. An alphabetical character following the temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.

(4) SALINITY: Salinity as defined by:  $S = 0.03 + 1.805 \text{ Cl}\%$ , reported in:  
 a. 1/100 parts per 1000, or  
 b. 1/1000 parts per 1000.

In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3).

In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.

(5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).

(6) SIGMA-T: The specific gravity anomaly as defined by:  $(\text{Specific gravity} - 1) \times 10^3$  (e.g.,  $\sigma_t$  reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).

(7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

|                       |   |
|-----------------------|---|
| (8) PO <sub>4</sub>   | Phosphate-Phosphorus reported to hundredths of microgram-atoms per litre.                                 |
| (9) -P-               | Total Phosphorus reported to hundredths of microgram-atoms per litre.                                     |
| (10) NO <sub>2</sub>  | Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre -- No dissolved nitrogen included -- |
| (11) NO <sub>3</sub>  | Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.   |
| (12) SiO <sub>2</sub> | Silicate-Silicon reported in whole microgram-atoms per litre.   |
| (13) pH               | The pH value.   |

NOTE: "TRC" (trace) is reported when a chemical entry has a value less than the standard deviation of measurement for that particular variable.

#### INTERPOLATED DATA HEADINGS

|             |            |          |            |          |           |
|-------------|------------|----------|------------|----------|-----------|
| (1) DEPTH   | (2) TEMP   | (3) SAL  | (4) OXYGEN | (5) SGMT | (6) SOUND |
| (7) DELTA-D | (8) POT-EN | (9) SVA. |            |          |           |

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY:
- A. The reported salinity values are measured to three decimal places.
    - (i) the interpolation error estimate is less than twice the standard deviation of measurement
      - the interpolated value is reported to three decimal places (e.g., 30.139).
    - (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
      - the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23 C).
  - B. The reported salinity values are measured to two decimal places and followed by the measurement error estimate.
    - the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59 B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

(5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.

(6) SOUND VELOCITY: Computed from temperature, salinity and total pressure values at standard oceanographic depth, using Wilson's formula (1960).

(7) DELTA-D: The geo-potential anomaly as defined by:

$$\Delta D = \int_0^p \delta dp$$

$\Delta D$  is expressed in dynamic metres ( $10^5$  ergs/gram) and recorded to three decimal places (e.g., 2.345 dyn. metres).

(8) POTENTIAL  
ENERGY  
ANOMALY:

The Potential energy anomaly  $\chi$  as defined by:

$$\chi = \frac{1}{g} \int_0^p p \delta dp = \int_0^z \rho p \delta dz$$

$\chi$  is expressed in units of  $10^8$  ergs/cm<sup>2</sup> and recorded to two decimal places (e.g., 116.44).

(9) SPECIFIC  
VOLUME  
ANOMALY:

The specific volume anomaly as defined by:

$$\delta = \alpha - \alpha_{35.0.P}$$

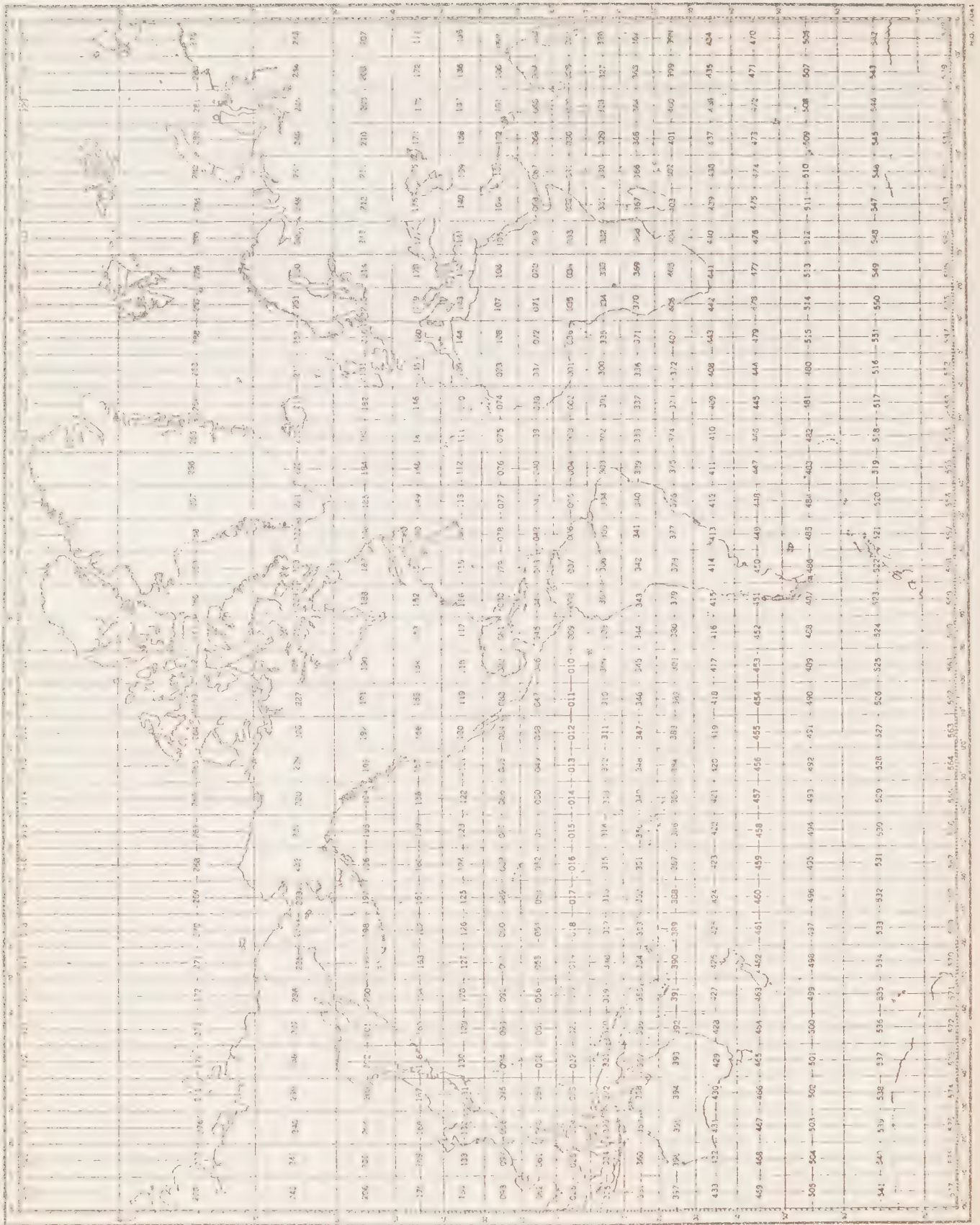
$\delta$  is expressed in ml/gr, and conventionally reported as  $10^5 \delta$ , to one decimal place (i.e.,  $\delta$  reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).

## SPECIAL CHARACTERS

‡ (Record mark): is used to indicate inconsistencies which are printed in an area below the "Observed Data". A corresponding record mark at the extreme left hand side indicates the level at which the inconsistency occurs

\* (Asterisk): this character may occur in the **interpolated** portion of the data record. It is printed at the extreme left hand side of the page, when three or more standard depth levels fall within any one **observed depth interval**. The **third**, and all consequent levels are preceded by the asterisk to indicate that more than **two** machine interpolations were carried out, utilizing the same set of interpolation parabolas. The asterisk will also appear when the last standard depth is an extrapolation and there are at least two interpolations between the last two observed depths.





MARSDEN SQUARE CHART

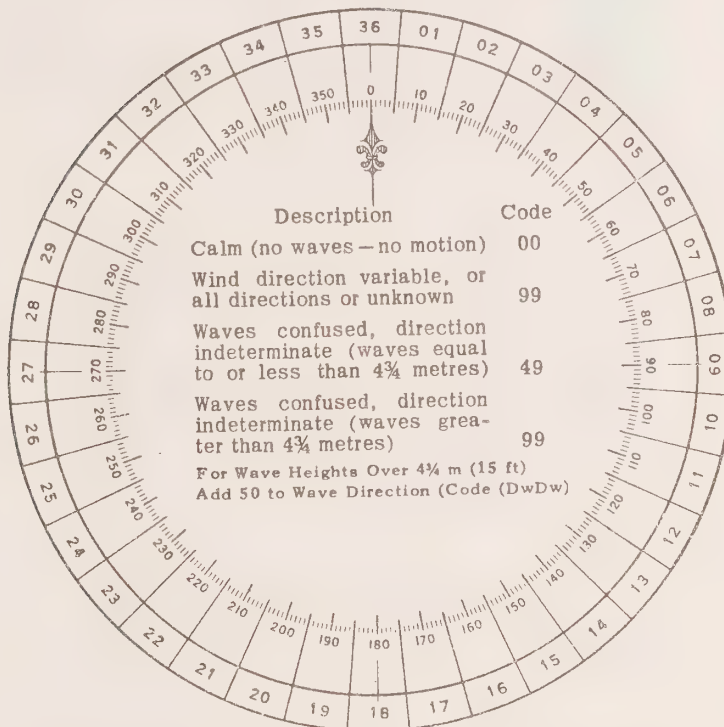
**Table 1**  
**CONVERSION**  
**MINUTES TO  $\frac{1}{10}$  HRS.**

| Minutes | Tenths Hrs.  |
|---------|--------------|
| 00-03   | 0            |
| 04-08   | 1            |
| 09-15   | 2            |
| 16-20   | 3            |
| 21-27   | 4            |
| 28-32   | 5            |
| 33-39   | 6            |
| 40-44   | 7            |
| 45-51   | 8            |
| 52-56   | 9            |
| 57-59   | 0 (next HR.) |

**Table 2**  
**WATER COLOR CODE**  
**Based on Percentage Yellow**

| Code: | Description     |
|-------|-----------------|
| 00    | Deep Blue       |
| 10    | Blue            |
| 20    | Greenish Blue   |
| 30    | Bluish Green    |
| 40    | Green           |
| 50    | Light Green     |
| 60    | Yellowish Green |
| 70    | Yellow Green    |
| 80    | Green Yellow    |
| 90    | Greenish Yellow |
| 99    | Yellow          |

**Table 3. DIRECTION CODE (dd)**



**NOTE:**

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.

**Table 4. PERIOD OF THE WAVES (Pw)**  
(Measure to the Nearest Second)

| Code: | Period in Seconds: | Code: | Period in Seconds:             |
|-------|--------------------|-------|--------------------------------|
| 2     | 5 sec. or less     | 8     | 16 or 17 sec.                  |
| 3     | 6 or 7 sec.        | 9     | 18 or 19 sec.                  |
| 4     | 8 or 9 sec.        | 0     | 20 or 21 sec.                  |
| 5     | 10 or 11 sec.      | 1     | Over 21 sec.                   |
| 6     | 12 or 13 sec.      | X     | Calm, or period not determined |
| 7     | 14 or 15 sec.      |       |                                |

**Table 5. HEIGHT OF THE WAVES (Hw)**

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft); 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft); 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.

| Code |                       |                          | Code                    |
|------|-----------------------|--------------------------|-------------------------|
| 0    | Less than ¼ m (1 ft)  | Add<br>50<br>to<br>Dw Dw | 0 5 m (16 ft)           |
| 1    | ½ m ( 1½ ft)          |                          | 1 5½ m (17½ ft)         |
| 2    | 1 m ( 3 ft)           |                          | 2 6 m (19 ft)           |
| 3    | 1½ m ( 5 ft)          |                          | 3 6½ m (21 ft)          |
| 4    | 2 m ( 6½ ft)          |                          | 4 7 m (22½ ft)          |
| 5    | 2½ m ( 8 ft)          |                          | 5 7½ m (24 ft)          |
| 6    | 3 m ( 9½ ft)          |                          | 6 8 m (25½ ft)          |
| 7    | 3½ m (11 ft)          |                          | 7 8½ m (27 ft)          |
| 8    | 4 m (13 ft)           |                          | 8 9 m (29 ft)           |
| 9    | 4½ m (14 ft)          |                          | 9 9½ m (30½ ft) or more |
| x    | Height not determined |                          |                         |

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

| Code | Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully   | Description     |
|------|---|-----------------|
| 00   | Sea like a mirror   | Calm            |
| 01   | Ripples with the appearance of scales are formed, but without foam crests.  | Light Air       |
| 02   | Small wavelets; crests have a glassy appearance and do not break.   | Light Breeze    |
| 03   | Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.   | Gentle Breeze   |
| 04   | Small waves, becoming longer; fairly frequent white horses.   | Moderate breeze |
| 05   | Moderate waves; many white horses are formed (chance of some spray)   | Fresh Breeze    |
| 06   | Large waves; white foam crests everywhere (probably some spray)   | Strong Breeze   |
| 07   | Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.  | Near Gale       |
| 08   | Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.   | Gale            |
| 09   | High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.  | Strong Gale     |
| 10   | Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.          | Storm           |
| 11   | Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected. | Violent Storm   |
| 12   | Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.  | Hurricane       |



Table 7. PRESENT WEATHER

W.W. CODE

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

| Code figure                          |    | ww  |
|--------------------------------------|----|---|
| No meteors<br>except<br>photometeors | 00 | Cloud development not observed or not observable  |
|                                      | 01 | Clouds generally dissolving or becoming less developed  |
|                                      | 02 | State of sky on the whole unchanged   |
|                                      | 03 | Clouds generally forming or developing  |
| Haze, dust, sand or smoke            | 04 | Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes   |
|                                      | 05 | Haze  |
|                                      | 06 | Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation  |
|                                      | 07 | Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen |
|                                      | 08 | Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm          |
|                                      | 09 | Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour   |
|                                      | 10 | Mist  |
|                                      | 11 | Patches of  |
|                                      | 12 | More of less continuous   |
|                                      | 13 | Lightning visible, no thunder heard   |
|                                      | 14 | Precipitation within sight, not reaching the ground or the surface of the sea   |
|                                      | 15 | Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station                           |
|                                      | 16 | Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station  |
|                                      | 17 | Thunderstorm, but no precepitation at the time of observation   |
|                                      | 18 | Squalls   |
|                                      | 19 | Funnel clouds   |
|                                      |    | characteristic change of the state of sky during the past hour  |

|              |   |   |
|--------------|---|---|
| ww = 20 - 29 |   | Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation |
| 20           | Drizzle (not freezing) or snow grains   | not falling as shower(s)  |
| 21           | Rain (not freezing)   |   |
| 22           | Snow  |   |
| 23           | Rain and snow or ice pellets, type (a)  |   |
| 24           | Freezing drizzle or freezing rain   |   |
| 25           | Shower(s) of rain   |   |
| 26           | Shower(s) of snow, or of rain and snow  |   |
| 27           | Shower(s) of hail, or of rain and hail  |   |
| 28           | Fog or ice fog  |   |
| 29           | Thunderstorm (with or without precipitation)  |   |
| ww = 30 - 39 |   | Duststorm, sandstorm, drifting or blowing snow  |
| 30           | Slight or moderate duststorm or sandstorm   | -has decreased during the preceding hour  |
| 31           |   | -no appreciable change during the preceding hour  |
| 32           |   | -has begun or has increased during the preceding hour   |
| 33           | Severe duststorm or sandstorm   | -has decreased during the preceding hour  |
| 34           |   | -no appreciable change during the preceding hour  |
| 35           |   | -has begun or has increased during the preceding hour   |
| 36           | Slight or moderate blowing snow   | generally low (below eye level)   |
| 37           | Heavy drifting snow   |   |
| 38           | Slight or moderate blowing snow   | generally high (above eye level)  |
| 39           | Heavy blowing snow  |   |
| ww = 40 - 49 |   | Fog or ice fog at the time of observation   |
| 40           | Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer |   |
| 41           | Fog or ice fog in patches   |   |
| 42           | Fog or ice fog, sky visible   | has become thinner during the preceding hour  |
| 43           | Fog or ice fog, sky invisible   |   |
| 44           | Fog or ice fog, sky visible   | no appreciable change during the preceding hour   |
| 45           | Fog or ice fog, sky invisible   |   |
| 46           | Fog or ice fog, sky visible   | has begun or has become thicker during the preceding hour   |
| 47           | Fog or ice fog, sky invisible   |   |
| 48           | Fog, depositing rime, sky visible   |   |
| 49           | Fog, depositing rime, sky invisible   |   |

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION



## PRECIPITATION ON STATION AT TIME OF OBSERVATION

## ww = 50 - 59 Drizzle

|    |  |   |                                      |
|----|--|---|--------------------------------------|
| 50 | Drizzle, not freezing, intermittent          | { | slight at time of observation        |
| 51 | Drizzle, not freezing, continuous            |   |                                      |
| 52 | Drizzle, not freezing, intermittent          | { | moderate at time of observation      |
| 53 | Drizzle, not freezing, continuous            |   |                                      |
| 54 | Drizzle, not freezing, intermittent          | { | heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous            |   |                                      |
| 56 | Drizzle, freezing, slight                    |   |                                      |
| 57 | Drizzle, freezing, moderate or heavy (dense) |   |                                      |
| 58 | Drizzle and rain, slight                     |   |                                      |
| 59 | Drizzle and rain, moderate or heavy          |   |                                      |

## ww = 60 - 69 Rain

|    |   |   |                                 |
|----|---|---|---------------------------------|
| 60 | Rain, not freezing, intermittent            | { | slight at time of observation   |
| 61 | Rain, not freezing, continuous              |   |                                 |
| 62 | Rain, not freezing, intermittent            | { | moderate at time of observation |
| 63 | Rain, not freezing, continuous              |   |                                 |
| 64 | Rain, not freezing, intermittent            | { | heavy at time of observation    |
| 65 | Rain, not freezing, continuous              |   |                                 |
| 66 | Rain, freezing, slight                      |   |                                 |
| 67 | Rain, freezing, moderate or heavy           |   |                                 |
| 68 | Rain or drizzle and snow, slight            |   |                                 |
| 69 | Rain or drizzle and snow, moderate or heavy |   |                                 |

## 70 - 79 Solid precipitation not in showers

ww

|    |   |   |                                 |
|----|---|---|---------------------------------|
| 70 | Intermittent fall of snow flakes                      | { | slight at time of observation   |
| 71 | Continuous fall of snow flakes                        |   |                                 |
| 72 | Intermittent fall of snow flakes                      | { | moderate at time of observation |
| 73 | Continuous fall of snow flakes                        |   |                                 |
| 74 | Intermittent fall of snow flakes                      | { | heavy at time of observation    |
| 75 | Continuous fall of snow flakes                        |   |                                 |
| 76 | Ice prisms (with or without fog)                      |   |                                 |
| 77 | Snow grains (with or without fog)                     |   |                                 |
| 78 | Isolated starlike snow crystals (with or without fog) |   |                                 |
| 79 | Ice pellets, type (a)                                 |   |                                 |

## ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

|    |  |   |   |
|----|--|---|---|
| 80 | Rain shower(s), slight   |   |   |
| 81 | Rain shower(s), moderate or heavy  |   |   |
| 82 | Rain shower(s), violent  |   |   |
| 83 | Shower(s) of rain and snow mixed, slight   |   |   |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy  |   |   |
| 85 | Snow shower(s), slight   |   |   |
| 86 | Snow shower(s), moderate or heavy  |   |   |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain                         | { | - slight  |
| 88 | or rain and snow mixed   |   |   |
| 89 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder      | { | - moderate or heavy   |
| 90 |  |   |   |
| 91 | Slight rain at time of observation   |   |   |
| 92 | Moderate or heavy rain at time of observation  |   |   |
| 93 | Slight snow, or rain and snow mixed or hail at time of observation                               |   |   |
| 94 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation                    |   |   |
| 95 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | { | thunderstorm during the preceding hour but not at time of observation |
| 96 | Thunderstorm, slight or moderate, with hail at time of observation                               |   |   |
| 97 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation              | { | thunderstorm at time of observation                                   |
| 98 | Thunderstorm, combined with duststorm or sandstorm at time of observation                        |   |   |
| 99 | Thunderstorm, heavy, with hail at time of observation  |   |   |

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

| Code | Cloud Type   | Code | Cloud Type             |
|------|--|------|------------------------|
| 0    | Cirrus ..... Ci  | 5    | Nimbostratus ..... Ns  |
| 1    | Cirrocumulus ..... Cc  | 6    | Stratocumulus ..... Sc |
| 2    | Cirrostratus ..... Cs  | 7    | Stratus ..... St       |
| 3    | Alto cumulus ..... Ac  | 8    | Cumulus ..... Cu       |
| 4    | Altostratus ..... As   | 9    | Cumulonimbus ..... Cb  |
| X    | Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena |      |                        |

Table 9. CLOUD AMOUNT CODE

| Code | Cloud Cover                     | Code | Cloud Cover   |
|------|---------------------------------|------|---|
| 0    | 0                               | 6    | 6 oktas   |
| 1    | 1 okta or less,<br>but not zero | 7    | 7 oktas or more,<br>but not 8 oktas                     |
| 2    | 2 oktas                         | 8    | 8 oktas   |
| 3    | 3 oktas                         | 9    | Sky obscured, or<br>cloud amount cannot<br>be estimated |
| 4    | 4 oktas                         |      |   |
| 5    | 5 oktas                         |      |   |

Note: 1 okta =  $\frac{1}{8}$  of the sky covered

Table 10. VISIBILITY

| Code | Estimate of hor. Visibility                              |
|------|--|
| 0    | Less than 50 metres (less than 55 yards)                 |
| 1    | 50-200 metres (approx. 55-220 yards)                     |
| 2    | 200-500 metres (approx. 220-550 yards)                   |
| 3    | 500-1,000 metres (approx. 550 yards- $\frac{1}{2}$ n.m.) |
| 4    | 1-2 km (approx. $\frac{1}{2}$ -1 n.m.)                   |
| 5    | 2-4 km (approx. 1-2 n.m.)                                |
| 6    | 4-10 km (approx. 2-6 n.m.)                               |
| 7    | 10-20 km (approx. 6-12 n.m.)                             |
| 8    | 20-50 km (approx. 12-30 n.m.)                            |
| 9    | 50 km or more (30 n.m. or more)                          |

Note: n.m. = nautical mile

TABLE 11. INSTITUTE CODE

| Code | Institute   |
|------|---|
| 01   | Marine Ecology Laboratory, Bedford Institute                |
| 02   | Pacific Oceanographic Group                                 |
| 03   | Biological Station, St. Andrews, N.B.                       |
| 04   | Arctic Biological Station, Ste. Anne de Bellevue, P.Q.      |
| 05   | Biological Station, St. John's Nfld.                        |
| 06   | Station de Biologie Marine, Grande Riviere, P.Q.            |
| 07   | Marine Sciences Branch, Central Region                      |
| 08   | Defence Research Establishment, Atlantic                    |
| 09   | Defence Research Establishment, Pacific                     |
| 10   | Atlantic Oceanographic Laboratory, Bedford Institute        |
| 11   | Polar Continental Shelf Project                             |
| 12   | Great Lakes Institute                                       |
| 13   | Institute of Oceanography, University of British Columbia   |
| 14   | Institute of Oceanography, Dalhousie University             |
| 15   | Marine Sciences Branch, Pacific Region                      |
| 16   | Department of Transport                                     |
| 17   | Marine Sciences Centre, McGill University                   |
| 18   | Canadian Forces Maritime Command, East Coast                |
| 19   | Canadian Forces Maritime Command, West Coast                |
| 20   | Ontario Water Resources Commission                          |
| 21   | Dept. of National Health and Welfare                        |
| 22   | Inland Waters Branch, Dept. of Energy, Mines and Resources. |



### SECTION III

Serial oceanographic data





GENERAL INFORMATION

|   |                                   |
|---|-----------------------------------|
| <u>Institute:</u>                         | Atlantic Oceanographic Laboratory |
| <u>Observation platform:</u>              | CNAV "Sackville"                  |
| <u>Vessel's cruising speed:</u>           | 10 knots                          |
| <u>Total number of stations occupied:</u> | 44                                |
| <u>Anemometer height above sea level:</u> | 11 metres                         |
| <u>Barometer readings:</u>                | Aneroid Barometer (corrected)     |
| <u>Air temperature:</u>                   | Fixed Thermometer                 |
| <u>Surface sea water temperature:</u>     | Bucket sample (deck thermometer)  |

The following Standard Deviations were used to express both measurement and interpolation error estimates:

|             |       |
|-------------|-------|
| Temperature | 0.02  |
| Salinity    | 0.003 |



|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 87   | WAVES 1 27X2 | AIR T 02.2 | VIS 7 |
| CONS. NO 001 | MONTH 11 | MXSAMPD 01 | WAVES 2 32X2 | WET B      | STN   |
| LAT 46-550N  | DAY 17   | NO.DPTH 7  | WND-DIR 270  | WW-CODE 01 |       |
| LON 60-100W  | HR 19.5  | W-COLOR    | WND-FCE 03   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1009.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 195 | 0000  | 059 B   | 30108 |        | 2373 | 14682 |
| 195 | 0010  | 0583 B  | 30082 |        | 2372 | 14681 |
| 195 | 0020  | 0584 B  | 30075 |        | 2371 | 14683 |
| 195 | 0029  | 0581 B  | 30096 |        | 2373 | 14683 |
| 195 | 0039  | 0566 B  | 30161 |        | 2380 | 14679 |
| 195 | 0049  | 0410 B  | 30668 |        | 2436 | 14623 |
| 195 | 0073  | 0193 B  | 31465 |        | 2517 | 14543 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0590 B  | 30108  |        | 2373 | 14682 | 0000    | 00000  | 4177 |
| 0010  | 0583 B  | 30082  |        | 2372 | 14681 | 0042    | 00002  | 4189 |
| 0020  | 0584 B  | 30075  |        | 2371 | 14682 | 0084    | 00009  | 4197 |
| 0030  | 0583 B  | 3009 B |        | 2373 | 14684 | 0126    | 00019  | 4184 |
| 0050  | 0450 I  | 3055 I |        | 2423 | 14638 | 0205    | 00051  | 3705 |
| 0075  | 0165 D  | 3157 F |        | 2527 | 14532 | 0286    | 00101  | 2708 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 310  | WAVES 1 25X2 | AIR T 01.1 | VIS 7 |
| CONS. NO 002 | MONTH 11 | MXSAMPD 03 | WAVES 2 25X2 | WET B      | STN   |
| LAT 47-050N  | DAY 17   | NO.DPTH 12 | WND-DIR 250  | WW-CODE 01 |       |
| LON 60-000W  | HR 21.6  | W-COLOR    | WND-FCE 02   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1009.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 216 | 0000  | 066 B   | 31554 |        | 2478 | 14729 |
| 216 | 0010  | 0658 B  | 31535 |        | 2477 | 14730 |
| 216 | 0019  | 0659 B  | 31537 |        | 2477 | 14732 |
| 216 | 0029  | 0660 B  | 31537 |        | 2477 | 14734 |
| 216 | 0038  | 0658 B  | 31547 |        | 2478 | 14735 |
| 216 | 0048  | 0376 B  | 32047 |        | 2549 | 14627 |
| 216 | 0072  | 0108 B  | 32511 |        | 2606 | 14519 |
| 216 | 0096  | 0108 B  | 32883 |        | 2636 | 14528 |
| 216 | 0144  | 0308 B  | 33565 |        | 2676 | 14634 |
| 216 | 0192  | 0380 B  | 33915 |        | 2697 | 14677 |
| 216 | 0240  | 0407 B  | 34214 |        | 2718 | 14700 |
| 216 | 0288  | 0416 B  | 34391 |        | 2731 | 14714 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0660 B  | 31554  |        | 2478 | 14729 | 0000    | 00000  | 3173 |
| 0010  | 0658 B  | 31535  |        | 2477 | 14730 | 0032    | 00002  | 3186 |
| 0020  | 0659 B  | 31537  |        | 2477 | 14732 | 0064    | 00007  | 3187 |
| 0030  | 0666 C  | 3153 B |        | 2475 | 14736 | 0096    | 00015  | 3203 |
| 0050  | 0338 C  | 3211 C |        | 2557 | 14611 | 0153    | 00037  | 2427 |
| 0075  | 0099 C  | 32561  |        | 2611 | 14516 | 0207    | 00071  | 1911 |
| 0100  | 0122 C  | 32948  |        | 2641 | 14536 | 0252    | 00111  | 1631 |
| 0125  | 0221 H  | 3332 C |        | 2663 | 14589 | 0290    | 00155  | 1418 |
| 0150  | 0322 B  | 3362 B |        | 2679 | 14641 | 0324    | 00203  | 1278 |
| 0175  | 0364 B  | 3381 D |        | 2690 | 14666 | 0355    | 00254  | 1174 |
| 0200  | 0387 B  | 33971  |        | 2700 | 14682 | 0384    | 00309  | 1080 |
| 0225  | 0402 B  | 34130  |        | 2711 | 14695 | 0410    | 00365  | 0978 |
| 0250  | 0415 B  | 3425 B |        | 2720 | 14706 | 0433    | 00423  | 0905 |



|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 460  | WAVES 1 25X2 | AIR T 01.1 | VIS 7 |
| CONS. NO 003 | MONTH 11 | MXSAMPD 04 | WAVES 2 25X2 | WET B      | STN   |
| LAT 47-150N  | DAY 17   | NO.DPTH 14 | WND-DIR 250  | WW-CODE 01 |       |
| LON 59-500W  | HR 23.5  | W-COLOR    | WND-FCE 02   | CLD-TPE    |       |
| MARSD SQ 150 | C/I 1810 | W-TRNSP    | BARO 1013.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 235 | 0000  | 067 B   | 31594 |        | 2480 | 14734 |
| 235 | 0010  | 0664    | 31575 |        | 2479 | 14733 |
| 235 | 0019  | 0666    | 31574 |        | 2479 | 14735 |
| 235 | 0029  | 0666    | 31573 |        | 2479 | 14737 |
| 235 | 0039  | 0285    | 32272 |        | 2575 | 14589 |
| 235 | 0049  | 0126    | 32478 |        | 2603 | 14523 |
| 235 | 0073  | 0030    | 32679 |        | 2624 | 14486 |
| 235 | 0097  | 0072    | 32928 |        | 2642 | 14513 |
| 235 | 0146  | 0370    | 33743 |        | 2684 | 14663 |
| 235 | 0195  | 0430 B  | 34126 |        | 2708 | 14701 |
| 235 | 0244  | 0446    | 34324 |        | 2722 | 14719 |
| 235 | 0292  | 0419    | 34403 |        | 2731 | 14717 |
| 235 | 0341  | 0424    | 34520 |        | 2740 | 14728 |
| 235 | 0390  | 0423    | 34571 |        | 2744 | 14737 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0670 B  | 31594  |        | 2480 | 14734 | 0000    | 00000  | 3155 |
| 0010  | 0664    | 31575  |        | 2479 | 14733 | 0032    | 00002  | 3164 |
| 0020  | 0675 C  | 3156 D |        | 2477 | 14739 | 0064    | 00007  | 3190 |
| 0030  | 0631 E  | 3164 F |        | 2488 | 14724 | 0095    | 00015  | 3079 |
| 0050  | 0117    | 32490  |        | 2604 | 14519 | 0146    | 00034  | 1975 |
| 0075  | 0030    | 32697  |        | 2626 | 14487 | 0193    | 00064  | 1770 |
| 0100  | 0090 C  | 3298 C |        | 2645 | 14522 | 0235    | 00102  | 1588 |
| 0125  | 0239 I  | 3340 I |        | 2668 | 14598 | 0273    | 00145  | 1376 |
| 0150  | 0380 B  | 33786  |        | 2686 | 14668 | 0305    | 00190  | 1208 |
| 0175  | 0423 D  | 3401 C |        | 2700 | 14693 | 0334    | 00238  | 1087 |
| 0200  | 0434 B  | 34153  |        | 2710 | 14704 | 0361    | 00289  | 0991 |
| 0225  | 0445    | 34265  |        | 2718 | 14715 | 0385    | 00341  | 0922 |
| 0250  | 0443    | 34336  |        | 2723 | 14719 | 0407    | 00396  | 0869 |
| 0300  | 0419    | 34423  |        | 2733 | 14718 | 0449    | 00513  | 0783 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 457  | WAVES 1 25X2 | AIR T 05.5 | VIS 7 |
| CONS. NO 004 | MONTH 11 | MXSAMPD 04 | WAVES 2 25X2 | WET B      | STN   |
| LAT 47-250N  | DAY 18   | NO.DPTH 14 | WND-DIR 250  | WW-CODE 01 |       |
| LON 59-352W  | HR 01.7  | W-COLOR    | WND-FCE 02   | CLD-TPE    |       |
| MARSD SQ 150 | C/I 1810 | W-TRNSP    | BARO 1010.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 017 | 0000  | 056 B   | 31614 |        | 2495 | 14690 |
| 017 | 0010  | 0548    | 31596 |        | 2495 | 14686 |
| 017 | 0019  | 0539    | 31638 |        | 2499 | 14685 |
| 017 | 0029  | 0516    | 31681 |        | 2505 | 14677 |
| 017 | 0039  | 0507    | 31676 |        | 2506 | 14675 |
| 017 | 0048  | 0392    | 31972 |        | 2541 | 14632 |
| 017 | 0072  | 0126    | 32704 |        | 2621 | 14530 |
| 017 | 0096  | 0061    | 32938 |        | 2643 | 14508 |
| 017 | 0145  | 0368    | 33668 |        | 2678 | 14661 |
| 017 | 0193  | 0464    | 34034 |        | 2697 | 14714 |
| 017 | 0241  | 0452    | 34255 |        | 2716 | 14720 |
| 017 | 0289  | 0424    | 34327 |        | 2725 | 14717 |
| 017 | 0338  | 0427    | 34469 |        | 2736 | 14728 |
| 017 | 0386  | 0424    | 34561 |        | 2743 | 14736 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0560 B  | 31614  |        | 2495 | 14690 | 0000    | 00000  | 3013 |
| 0010  | 0548    | 31596  |        | 2495 | 14686 | 0030    | 00002  | 3014 |
| 0020  | 0537    | 31643  |        | 2500 | 14684 | 0060    | 00006  | 2967 |
| 0030  | 0518    | 3167 B |        | 2505 | 14678 | 0090    | 00014  | 2925 |
| 0050  | 0365    | 3204 B |        | 2549 | 14622 | 0145    | 00036  | 2499 |
| 0075  | 0109    | 3275 D |        | 2625 | 14523 | 0198    | 00069  | 1777 |
| 0100  | 0079 E  | 3300 C |        | 2647 | 14518 | 0240    | 00106  | 1566 |
| 0125  | 0220 I  | 3337 I |        | 2668 | 14590 | 0278    | 00149  | 1379 |
| 0150  | 0385    | 33718  |        | 2680 | 14670 | 0311    | 00196  | 1264 |
| 0175  | 0446 B  | 3393 C |        | 2691 | 14702 | 0342    | 00247  | 1173 |
| 0200  | 0466    | 34075  |        | 2700 | 14717 | 0370    | 00301  | 1085 |
| 0225  | 0463 B  | 34198  |        | 2710 | 14721 | 0396    | 00358  | 0992 |
| 0250  | 0446    | 3427 B |        | 2718 | 14719 | 0420    | 00417  | 0921 |
| 0300  | 0424    | 34358  |        | 2727 | 14719 | 0465    | 00542  | 0837 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 250  | WAVES 1 25X2 | AIR T 03.3 | VIS 7 |
| CONS. NO 005 | MONTH 11 | MXSAMPD 02 | WAVES 2 23X2 | WET B      | STN   |
| LAT 47-350N  | DAY 18   | NO.DPTH 10 | WND-DIR 250  | WW-CODE 01 |       |
| LON 59-200W  | HR 03.6  | W-COLOR    | WND-FCE 02   | CLO-TPE    |       |
| MARSD SQ 150 | C/I 1810 | W-TRNSP    | BARO 1010.0  | CLO-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 036 | 0000  | 051 B   | 31764 |        | 2513 | 14671 |
| 036 | 0009  | 0537 B  | 31709 |        | 2505 | 14683 |
| 036 | 0018  | 0519 B  | 31800 |        | 2514 | 14678 |
| 036 | 0028  | 0398 B  | 32080 |        | 2549 | 14633 |
| 036 | 0037  | 0382 B  | 32118 |        | 2554 | 14628 |
| 036 | 0046  | 0324 B  | 32150 |        | 2562 | 14605 |
| 036 | 0069  | 0226 B  | 32255 |        | 2578 | 14568 |
| 036 | 0092  | 0182 B  | 32443 |        | 2596 | 14555 |
| 036 | 0138  | 0142 B  | 33137 |        | 2654 | 14554 |
| 036 | 0184  | 0456 B  | 34054 |        | 2700 | 14710 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0510 B  | 31764  |        | 2513 | 14671 | 0000    | 00000  | 2847 |
| 0010  | 0538 B  | 31712  |        | 2505 | 14684 | 0029    | 00002  | 2917 |
| 0020  | 0495 C  | 3186 D |        | 2522 | 14669 | 0058    | 00006  | 2762 |
| 0030  | 0392 C  | 3210 B |        | 2551 | 14631 | 0084    | 00013  | 2482 |
| 0050  | 0302 B  | 32164  |        | 2565 | 14597 | 0133    | 00032  | 2354 |
| 0075  | 0211 B  | 32295  |        | 2582 | 14563 | 0190    | 00069  | 2186 |
| 0100  | 0160 D  | 3254 B |        | 2605 | 14548 | 0242    | 00115  | 1964 |
| 0125  | 0132 E  | 3291 B |        | 2637 | 14544 | 0288    | 00168  | 1667 |
| 0150  | 0233 I  | 3333 F |        | 2663 | 14599 | 0327    | 00222  | 1425 |
| 0175  | 0384 E  | 3385 B |        | 2691 | 14675 | 0359    | 00276  | 1170 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 158  | WAVES 1 25X3 | AIR T 02.7 | VIS 7 |
| CONS. NO 006 | MONTH 11 | MXSAMPD 01 | WAVES 2 23X5 | WET B      | STN   |
| LAT 48-000N  | DAY 18   | NO.DPTH 9  | WND-DIR 250  | WW-CODE 02 |       |
| LON 59-300W  | HR 07.2  | W-COLOR    | WND-FCE 05   | CLD-TPE    |       |
| MARSD SQ 150 | C/I 1810 | W-TRNSP    | BARO 1010.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 072 | 0000  | 062 B   | 31414 |        | 2472 | 14711 |
| 072 | 0010  | 0619    | 31399 |        | 2471 | 14713 |
| 072 | 0019  | 0618    | 31389 |        | 2471 | 14713 |
| 072 | 0029  | 0619    | 31415 |        | 2472 | 14716 |
| 072 | 0038  | 0294    | 32204 |        | 2568 | 14592 |
| 072 | 0048  | 0128    | 32349 |        | 2592 | 14522 |
| 072 | 0072  | 0071    | 32521 |        | 2609 | 14503 |
| 072 | 0096  | 0085    | 32784 |        | 2630 | 14517 |
| 072 | 0144  | 0244    | 33369 |        | 2665 | 14603 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0620 B  | 31414  |        | 2472 | 14711 | 0000    | 00000  | 3231 |
| 0010  | 0619    | 31399  |        | 2471 | 14713 | 0033    | 00002  | 3242 |
| 0020  | 0627 C  | 3137 D |        | 2468 | 14717 | 0065    | 00007  | 3273 |
| 0030  | 0586 D  | 3150 G |        | 2483 | 14704 | 0097    | 00015  | 3131 |
| 0050  | 0113 C  | 3237 B |        | 2595 | 14516 | 0150    | 00035  | 2067 |
| 0075  | 0070    | 32551  |        | 2612 | 14503 | 0200    | 00067  | 1902 |
| 0100  | 0084 B  | 3281 D |        | 2632 | 14517 | 0245    | 00108  | 1713 |
| 0125  | 0153 B  | 3311 C |        | 2651 | 14556 | 0286    | 00154  | 1529 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 470  | WAVES 1 25X3 | AIR T 05.5 | VIS 7 |
| CONS. NO 007 | MONTH 11 | MXSAMPD 04 | WAVES 2 25X4 | WET B      | STN   |
| LAT 48-090N  | DAY 18   | NO.DPTH 14 | WND-DIR 250  | WW-CODE 02 |       |
| LON 60-060W  | HR 11.4  | W-COLOR    | WND-FCE 05   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1009.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 114 | 0000  | 063 B   | 31464 |        | 2475 | 14716 |
| 114 | 0009  | 0628    | 31434 |        | 2473 | 14716 |
| 114 | 0018  | 0628    | 31441 |        | 2473 | 14718 |
| 114 | 0027  | 0628    | 31434 |        | 2473 | 14719 |
| 114 | 0036  | 0629    | 31440 |        | 2473 | 14721 |
| 114 | 0045  | 0387    | 32106 |        | 2552 | 14632 |
| 114 | 0068  | 0148    | 32381 |        | 2594 | 14535 |
| 114 | 0091  | 0084    | 32573 |        | 2613 | 14513 |
| 114 | 0136  | 0082    | 32842 |        | 2635 | 14523 |
| 114 | 0181  | 0236    | 33307 |        | 2661 | 14605 |
| 114 | 0227  | 0376    | 33865 |        | 2693 | 14680 |
| 114 | 0272  | 0398    | 34117 |        | 2711 | 14701 |
| 114 | 0318  | 0410    | 34303 |        | 2724 | 14716 |
| 114 | 0363  | 0418    | 34416 |        | 2732 | 14728 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0630 B  | 31464  |        | 2475 | 14716 | 0000    | 00000  | 3205 |
| 0010  | 0628    | 31434  |        | 2473 | 14717 | 0032    | 00002  | 3226 |
| 0020  | 0628    | 31439  |        | 2473 | 14718 | 0065    | 00007  | 3223 |
| 0030  | 0642 E  | 3140 H |        | 2468 | 14725 | 0097    | 00015  | 3271 |
| 0050  | 0304 E  | 3226 I |        | 2572 | 14599 | 0153    | 00037  | 2286 |
| 0075  | 0117 B  | 32446  |        | 2601 | 14523 | 0207    | 00071  | 2009 |
| 0100  | 0071    | 3263 C |        | 2618 | 14509 | 0256    | 00114  | 1846 |
| 0125  | 0068    | 3277 D |        | 2630 | 14513 | 0301    | 00166  | 1730 |
| 0150  | 0122 C  | 3297 B |        | 2642 | 14545 | 0343    | 00225  | 1613 |
| 0175  | 0211 B  | 33237  |        | 2657 | 14592 | 0382    | 00290  | 1475 |
| 0200  | 0302 B  | 3355 E |        | 2675 | 14640 | 0417    | 00357  | 1315 |
| 0225  | 0371    | 33843  |        | 2692 | 14678 | 0448    | 00425  | 1162 |
| 0250  | 0395 B  | 3402 C |        | 2703 | 14694 | 0476    | 00493  | 1058 |
| 0300  | 0406    | 34239  |        | 2720 | 14710 | 0526    | 00632  | 0908 |



|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 411  | WAVES 1 25X2 | AIR T 07.7 | VIS 7 |
| CONS. NO 008 | MONTH 11 | MXSAMPD 04 | WAVES 2 22X2 | WET B      | STN   |
| LAT 48-215N  | DAY 18   | NO.DPTH 14 | WND-DIR 220  | WW-CODE 02 |       |
| LON 60-380W  | HR 14.8  | W-COLOR    | WND-FCE 02   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1009.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 148 | 0000  | 045 B   | 31465 |        | 2495 | 14642 |
| 148 | 0009  | 0438    | 31466 |        | 2497 | 14639 |
| 148 | 0018  | 0438    | 31473 |        | 2497 | 14640 |
| 148 | 0026  | 0433    | 31510 |        | 2501 | 14640 |
| 148 | 0035  | 0426    | 31540 |        | 2504 | 14639 |
| 148 | 0044  | 0083    | 32148 |        | 2579 | 14498 |
| 148 | 0066  | -0024   | 32424 |        | 2606 | 14457 |
| 148 | 0088  | -0029   | 32649 |        | 2625 | 14461 |
| 148 | 0132  | 0112    | 33198 |        | 2661 | 14541 |
| 148 | 0177  | 0247    | 33704 |        | 2692 | 14615 |
| 148 | 0221  | 0367    | 34214 |        | 2722 | 14680 |
| 148 | 0265  | 0398    | 34412 |        | 2734 | 14703 |
| 148 | 0309  | 0420    | 34590 |        | 2746 | 14722 |
| 148 | 0353  | 0422    | 34714 |        | 2756 | 14732 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0450 B  | 31465  |        | 2495 | 14642 | 0000    | 00000  | 3012 |
| 0010  | 0438    | 31466  |        | 2497 | 14639 | 0030    | 00002  | 3000 |
| 0020  | 0437    | 31481  |        | 2498 | 14640 | 0060    | 00006  | 2988 |
| 0030  | 0451 G  | 3149 H |        | 2497 | 14648 | 0090    | 00014  | 2996 |
| 0050  | -0003 I | 3231 I |        | 2596 | 14463 | 0141    | 00034  | 2050 |
| 0075  | -0035   | 32517  |        | 2614 | 14455 | 0191    | 00065  | 1878 |
| 0100  | -0000 D | 3280 B |        | 2635 | 14479 | 0235    | 00105  | 1680 |
| 0125  | 0083 C  | 3311 B |        | 2656 | 14525 | 0275    | 00151  | 1485 |
| 0150  | 0167    | 33403  |        | 2674 | 14571 | 0311    | 00200  | 1317 |
| 0175  | 0241    | 33682  |        | 2691 | 14611 | 0342    | 00252  | 1163 |
| 0200  | 0316 B  | 3399 E |        | 2709 | 14652 | 0369    | 00304  | 0998 |
| 0225  | 0372    | 3424 B |        | 2723 | 14683 | 0393    | 00355  | 0866 |
| 0250  | 0393 B  | 3436 D |        | 2731 | 14698 | 0414    | 00406  | 0796 |
| 0300  | 0417    | 34557  |        | 2744 | 14719 | 0451    | 00511  | 0681 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 384  | WAVES 1 20X1 | AIR T 08.8 | VIS 6 |
| CONS. NO 009 | MONTH 11 | MXSAMPD 03 | WAVES 2 22X2 | WET B      | STN   |
| LAT 48-360N  | DAY 18   | NO.DPTH 13 | WNC-DIR 220  | WW-CODE 80 |       |
| LON 61-110W  | HR 18.1  | W-COLOR    | WNC-FCE 02   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1008.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 181 | 0000  | 052 B   | 31592 |        | 2498 | 14673 |
| 181 | 0010  | 0514    | 31582 |        | 2498 | 14672 |
| 181 | 0020  | 0512    | 31575 |        | 2497 | 14673 |
| 181 | 0030  | 0512    | 31584 |        | 2498 | 14674 |
| 181 | 0040  | 0501    | 31585 |        | 2499 | 14672 |
| 181 | 0050  | 0284    | 32159 |        | 2566 | 14589 |
| 181 | 0075  | 0105    | 32694 |        | 2621 | 14521 |
| 181 | 0099  | 0050    | 32944 |        | 2645 | 14504 |
| 181 | 0149  | 0281    | 33573 |        | 2679 | 14623 |
| 181 | 0199  | 0358    | 34052 |        | 2710 | 14671 |
| 181 | 0248  | 0400    | 34399 |        | 2733 | 14701 |
| 181 | 0298  | 0418    | 34581 |        | 2746 | 14720 |
| 181 | 0348  | 0422    | 34713 |        | 2756 | 14731 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0520 B  | 31592  |        | 2498 | 14673 | 0000    | 00000  | 2987 |
| 0010  | 0514    | 31582  |        | 2498 | 14672 | 0030    | 00002  | 2989 |
| 0020  | 0512    | 31575  |        | 2497 | 14673 | 0060    | 00006  | 2993 |
| 0030  | 0512    | 31584  |        | 2498 | 14674 | 0090    | 00014  | 2987 |
| 0050  | 0284    | 32159  |        | 2566 | 14589 | 0144    | 00035  | 2343 |
| 0075  | 0105    | 32694  |        | 2621 | 14521 | 0196    | 00068  | 1813 |
| 0100  | 0053    | 32957  |        | 2645 | 14505 | 0239    | 00106  | 1583 |
| 0125  | 0151 I  | 3327 D |        | 2665 | 14558 | 0277    | 00149  | 1404 |
| 0150  | 0283    | 33584  |        | 2679 | 14624 | 0310    | 00196  | 1271 |
| 0175  | 0333 C  | 33839  |        | 2695 | 14653 | 0340    | 00246  | 1125 |
| 0200  | 0359    | 34061  |        | 2710 | 14671 | 0367    | 00297  | 0985 |
| 0225  | 0384    | 34254  |        | 2723 | 14689 | 0390    | 00348  | 0867 |
| 0250  | 0401    | 34408  |        | 2734 | 14702 | 0411    | 00398  | 0771 |
| 0300  | 0420    | 3461 E |        | 2747 | 14721 | 0447    | 00499  | 0646 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 201  | WAVES 1 20X1 | AIR T 05.5 | VIS 7 |
| CONS. NO 010 | MONTH 11 | MXSAMPD 02 | WAVES 2 22X2 | WET B      | STN   |
| LAT 48-530N  | DAY 18   | NO.DPTH 10 | WND-DIR 220  | WW-CODE 02 |       |
| LON 61-345W  | HR 21.7  | W-COLOR    | WND-FCE 02   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1007.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 217 | 0000  | 049 B   | 31350 |        | 2482 | 14657 |
| 217 | 0010  | 0470    | 31338 |        | 2483 | 14650 |
| 217 | 0020  | 0472    | 31337 |        | 2483 | 14653 |
| 217 | 0030  | 0469    | 31354 |        | 2485 | 14654 |
| 217 | 0040  | 0404    | 31454 |        | 2499 | 14629 |
| 217 | 0050  | 0311    | 31671 |        | 2525 | 14594 |
| 217 | 0075  | -0015   | 32522 |        | 2614 | 14464 |
| 217 | 0100  | -0023   | 32658 |        | 2625 | 14466 |
| 217 | 0149  | 0183    | 33378 |        | 2671 | 14577 |
| 217 | 0194  | 0288    | 33851 |        | 2700 | 14637 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0490 B  | 31350  |        | 2482 | 14657 | 0000    | 00000  | 3138 |
| 0010  | 0470    | 31338  |        | 2483 | 14650 | 0031    | 00002  | 3127 |
| 0020  | 0472    | 31337  |        | 2483 | 14653 | 0063    | 00006  | 3131 |
| 0030  | 0469    | 31354  |        | 2485 | 14654 | 0094    | 00014  | 3116 |
| 0050  | 0311    | 31671  |        | 2525 | 14594 | 0153    | 00038  | 2734 |
| 0075  | -0015   | 32522  |        | 2614 | 14464 | 0211    | 00074  | 1882 |
| 0100  | -0023   | 32658  |        | 2625 | 14466 | 0257    | 00115  | 1774 |
| 0125  | 0070 H  | 3300 I |        | 2648 | 14518 | 0299    | 00163  | 1558 |
| 0150  | 0130 I  | 3327 I |        | 2666 | 14553 | 0336    | 00215  | 1389 |
| 0175  | 0213 I  | 3359 I |        | 2685 | 14598 | 0369    | 00270  | 1211 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 62   | WAVES 1 13X1 | AIR T 12.2 | VIS 6 |
| CONS. NO 011 | MONTH 11 | MXSAMPD 01 | WAVES 2 13X2 | WET B      | STN   |
| LAT 49-190N  | DAY 19   | NO.DPTH 7  | WND-DIR 130  | WW-CODE 02 |       |
| LON 58-300W  | HR 12.2  | W-COLOR    | WND-FCE 01   | CLD-TPE    |       |
| MARSD SQ 150 | C/I 1810 | W-TRNSP    | BARO 995.0   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 122 | 0000  | 057 B   | 31191 |        | 2461 | 14688 |
| 122 | 0010  | 0563    | 31182 |        | 2461 | 14687 |
| 122 | 0020  | 0563    | 31177 |        | 2460 | 14688 |
| 122 | 0030  | 0558    | 31196 |        | 2462 | 14688 |
| 122 | 0039  | 0282    | 31918 |        | 2547 | 14583 |
| 122 | 0049  | 0155    | 32130 |        | 2573 | 14531 |
| 122 | 0059  | 0088    | 32375 |        | 2597 | 14506 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0570 B  | 31191  |        | 2461 | 14688 | 0000    | 00000  | 3342 |
| 0010  | 0563    | 31182  |        | 2461 | 14687 | 0034    | 00002  | 3342 |
| 0020  | 0563    | 31177  |        | 2460 | 14688 | 0067    | 00007  | 3346 |
| 0030  | 0558    | 31196  |        | 2462 | 14688 | 0101    | 00015  | 3327 |
| 0050  | 0124 G  | 3226 I |        | 2586 | 14519 | 0156    | 00037  | 2152 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 148  | WAVES 1 13X1 | AIR T 08.8 | VIS 6 |
| CONS. NO 012 | MONTH 11 | MXSAMPD 01 | WAVES 2 13X2 | WET 8      | STN   |
| LAT 49-350N  | DAY 19   | NO.DPTH 9  | WND-DIR 130  | WW-CODE 02 |       |
| LON 58-500W  | HR 14.5  | W-COLOR    | WND-FCE 01   | CLD-TPE    |       |
| MARSD SQ 150 | C/I 1810 | W-TRNSP    | BARO 992.0   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 145 | 0000  | 046 B   | 31360 |        | 2486 | 14645 |
| 145 | 0010  | 0453    | 31359 |        | 2487 | 14644 |
| 145 | 0020  | 0453    | 31355 |        | 2486 | 14645 |
| 145 | 0030  | 0451    | 31364 |        | 2487 | 14646 |
| 145 | 0040  | 0076    | 32266 |        | 2589 | 14496 |
| 145 | 0050  | 0044    | 32378 |        | 2599 | 14485 |
| 145 | 0075  | 0040    | 32595 |        | 2617 | 14490 |
| 145 | 0100  | 0098    | 32962 |        | 2643 | 14526 |
| 145 | 0139  | 0184    | 33306 |        | 2665 | 14575 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0460 B  | 31360  |        | 2486 | 14645 | 0000    | 00000  | 3100 |
| 0010  | 0453    | 31359  |        | 2487 | 14644 | 0031    | 00002  | 3095 |
| 0020  | 0453    | 31355  |        | 2486 | 14645 | 0062    | 00006  | 3099 |
| 0030  | 0451    | 31364  |        | 2487 | 14646 | 0093    | 00014  | 3090 |
| 0050  | 0044    | 32378  |        | 2599 | 14485 | 0145    | 00034  | 2021 |
| 0075  | 0040    | 32595  |        | 2617 | 14490 | 0194    | 00065  | 1853 |
| 0100  | 0098    | 32962  |        | 2643 | 14526 | 0237    | 00104  | 1605 |
| 0125  | 0141 C  | 3316 G |        | 2657 | 14552 | 0276    | 00149  | 1480 |



|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 256  | WAVES 1 18X3 | AIR T 08.8 | VIS 6 |
| CONS. NO 013 | MONTH 11 | MXSAMPD 02 | WAVES 2 09X3 | WET B      | STN   |
| LAT 49-500N  | DAY 19   | NO.DPTH 11 | WNC-DIR 180  | WW-CODE 50 |       |
| LON 59-250W  | HR 17.5  | W-COLOR    | WND-FCE 05   | CLD-TPE    |       |
| MARSD SQ 150 | C/I 1810 | W-TRNSP    | BARO 990.0   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 175 | 0000  | 034 B   | 31573 |        | 2514 | 14597 |
| 175 | 0010  | 0331    | 31556 |        | 2514 | 14594 |
| 175 | 0020  | 0331    | 31561 |        | 2514 | 14596 |
| 175 | 0030  | 0330    | 31562 |        | 2514 | 14597 |
| 175 | 0040  | 0330    | 31559 |        | 2514 | 14599 |
| 175 | 0050  | 0009    | 32151 |        | 2583 | 14466 |
| 175 | 0074  | 0022    | 32521 |        | 2612 | 14481 |
| 175 | 0099  | 0020    | 32830 |        | 2637 | 14488 |
| 175 | 0148  | 0191    |       |        |      |       |
| 175 | 0198  | 0328    | 33017 |        | 2630 | 14644 |
| 175 | 0248  | 0395    | 33355 |        | 2651 | 14685 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0340 B  | 31573  |        | 2514 | 14597 | 0000    | 00000  | 2831 |
| 0010  | 0331    | 31556  |        | 2514 | 14594 | 0028    | 00001  | 2836 |
| 0020  | 0331    | 31561  |        | 2514 | 14596 | 0057    | 00006  | 2833 |
| 0030  | 0330    | 31562  |        | 2514 | 14597 | 0085    | 00013  | 2832 |
| 0050  | 0009    | 32151  |        | 2583 | 14466 | 0136    | 00033  | 2177 |
| 0075  | 0021    | 32535  |        | 2613 | 14481 | 0187    | 00065  | 1889 |
| 0100  | 0023    | 3283 B |        | 2637 | 14490 | 0232    | 00105  | 1661 |
| 0125  | 0099 F  | 3293 I |        | 2640 | 14530 | 0273    | 00153  | 1631 |
| 0150  | 0198    | 3299 I |        | 2639 | 14579 | 0315    | 00211  | 1651 |
| 0175  | 0272    | 3302 I |        | 2635 | 14616 | 0357    | 00282  | 1688 |
| 0200  | 0327 B  | 3323 I |        | 2647 | 14646 | 0398    | 00361  | 1578 |
| 0225  | 0368    | 3331 I |        | 2649 | 14669 | 0437    | 00447  | 1563 |
| *0250 | 0397    | 3336 C |        | 2651 | 14686 | 0477    | 00543  | 1553 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 128  | WAVES 1 25X3 | AIR T 07.2 | VIS 6 |
| CONS. NO 014 | MONTH 11 | MXSAMPD 01 | WAVES 2 25X3 | WET B      | STN   |
| LAT 50-050N  | DAY 19   | NO.DPTH 8  | WND-DIR 250  | WW-CODE 02 |       |
| LON 59-550W  | HR 20.4  | W-COLOR    | WND-FCE 05   | CLD-TPE    |       |
| MARSD SQ 186 | C/I 1810 | W-TRNSP    | BARO 998.7   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 204 | 0000  | 041 B   | 31494 |        | 2502 | 14626 |
| 204 | 0010  | 0405    | 31486 |        | 2501 | 14625 |
| 204 | 0020  | 0398    | 31516 |        | 2504 | 14624 |
| 204 | 0030  | 0394    | 31534 |        | 2506 | 14624 |
| 204 | 0040  | 0396    | 31543 |        | 2507 | 14627 |
| 204 | 0050  | 0396    | 31547 |        | 2507 | 14629 |
| 204 | 0074  | 0364    | 31652 |        | 2518 | 14620 |
| 204 | 0099  | 0258    | 32015 |        | 2556 | 14584 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0410 B  | 31494  |        | 2502 | 14626 | 0000    | 00000  | 2952 |
| 0010  | 0405    | 31486  |        | 2501 | 14625 | 0030    | 00002  | 2954 |
| 0020  | 0398    | 31516  |        | 2504 | 14624 | 0059    | 00006  | 2925 |
| 0030  | 0394    | 31534  |        | 2506 | 14624 | 0089    | 00014  | 2909 |
| 0050  | 0396    | 31547  |        | 2507 | 14629 | 0147    | 00038  | 2902 |
| 0075  | 0358 B  | 3168 D |        | 2521 | 14618 | 0218    | 00083  | 2770 |
| 0100  | 0253    | 32033  |        | 2558 | 14582 | 0284    | 00141  | 2415 |

|              |          |             |              |            |       |
|--------------|----------|-------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 256   | WAVES 1 21X1 | AIR T 02.2 | VIS 7 |
| CONS. NO 015 | MONTH 11 | MXSAMPD 02  | WAVES 2 21X1 | WET B      | STN   |
| LAT 49-450N  | DAY 20   | NO. DPTH 11 | WND-DIR 210  | WW-CODE 02 |       |
| LON 61-500W  | HR 04.5  | W-COLOR     | WND-FCE 01   | CLD-TPF    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP     | BARO 998.2   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 045 | 0000  | 040 B   | 31610 |        | 2512 | 14623 |
| 045 | 0010  | 0392    | 31599 |        | 2512 | 14621 |
| 045 | 0020  | 0392    | 31597 |        | 2511 | 14623 |
| 045 | 0030  | 0384    | 31595 |        | 2512 | 14621 |
| 045 | 0040  | 0382    | 31598 |        | 2512 | 14622 |
| 045 | 0050  | 0383    | 31600 |        | 2513 | 14624 |
| 045 | 0075  | -0044   | 32396 |        | 2605 | 14449 |
| 045 | 0100  | -0020   | 32650 |        | 2624 | 14468 |
| 045 | 0150  | 0113    | 33188 |        | 2660 | 14544 |
| 045 | 0200  | 0283    | 33828 |        | 2699 | 14636 |
| 045 | 0250  | 0385    | 34312 |        | 2728 | 14694 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0400 B  | 31610  |        | 2512 | 14623 | 0000    | 00000  | 2855 |
| 0010  | 0392    | 31599  |        | 2512 | 14621 | 0029    | 00001  | 2857 |
| 0020  | 0392    | 31597  |        | 2511 | 14623 | 0057    | 00006  | 2859 |
| 0030  | 0384    | 31595  |        | 2512 | 14621 | 0086    | 00013  | 2854 |
| 0050  | 0383    | 31600  |        | 2513 | 14624 | 0144    | 00037  | 2850 |
| 0075  | -0044   | 32396  |        | 2605 | 14449 | 0204    | 00074  | 1967 |
| 0100  | -0020   | 32650  |        | 2624 | 14468 | 0251    | 00116  | 1781 |
| 0125  | 0037 B  | 32910  |        | 2642 | 14501 | 0294    | 00165  | 1610 |
| 0150  | 0113    | 33188  |        | 2660 | 14544 | 0332    | 00219  | 1443 |
| 0175  | 0200 B  | 3351 D |        | 2680 | 14591 | 0367    | 00276  | 1259 |
| 0200  | 0283    | 33828  |        | 2699 | 14636 | 0396    | 00332  | 1090 |
| 0225  | 0327 D  | 3405 F |        | 2713 | 14662 | 0422    | 00389  | 0963 |
| 0250  | 0385    | 34312  |        | 2728 | 14694 | 0445    | 00443  | 0826 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 132  | WAVES 1 27X3 | AIR T 04.4 | VIS 6 |
| CONS. NO 016 | MONTH 11 | MXSAMPD 01 | WAVES 2 21X3 | WET B      | STN   |
| LAT 50-030N  | DAY 20   | NO.DPTH 9  | WND-DIR 270  | WW-CODE 02 |       |
| LON 64-050W  | HR 14.9  | W-COLOR    | WND-FCE 06   | CLD-TPE    |       |
| MARSD SQ 187 | C/I 1810 | W-TRNSP    | BARO 998.6   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 149 | 0000  | 037 B   | 31485 |        | 2505 | 14609 |
| 149 | 0010  | 0368    | 31490 |        | 2505 | 14609 |
| 149 | 0020  | 0368    | 31488 |        | 2505 | 14611 |
| 149 | 0029  | 0311    | 31820 |        | 2536 | 14592 |
| 149 | 0039  | 0100    | 32217 |        | 2583 | 14506 |
| 149 | 0049  | 0061    | 32374 |        | 2598 | 14492 |
| 149 | 0073  | 0064    | 32452 |        | 2604 | 14499 |
| 149 | 0098  | 0056    | 32484 |        | 2607 | 14500 |
| 149 | 0127  | 0084    | 32836 |        | 2634 | 14522 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0370 B  | 31485  |        | 2505 | 14609 | 0000    | 00000  | 2923 |
| 0010  | 0368    | 31490  |        | 2505 | 14609 | 0029    | 00002  | 2918 |
| 0020  | 0368    | 31488  |        | 2505 | 14611 | 0059    | 00006  | 2920 |
| 0030  | 0290 C  | 3186 B |        | 2542 | 14584 | 0086    | 00013  | 2570 |
| 0050  | 0060    | 32382  |        | 2599 | 14492 | 0133    | 00031  | 2026 |
| 0075  | 0063    | 3245 B |        | 2604 | 14499 | 0183    | 00064  | 1974 |
| 0100  | 0064 C  | 3256 I |        | 2612 | 14505 | 0232    | 00107  | 1896 |
| 0125  | 0082    | 3281 B |        | 2632 | 14521 | 0277    | 00159  | 1710 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 192  | WAVES 1 31X2 | AIR T 01.1 | VIS 7 |
| CONS. NO 017 | MONTH 11 | MXSAMPD 02 | WAVES 2 31X1 | WET B      | STN   |
| LAT 50-020N  | DAY 20   | NO.DPTH 10 | WND-DIR 310  | WW-CODE 02 |       |
| LON 66-050W  | HR 23.3  | W-COLOR    | WND-FCE 04   | CLD-TPE    |       |
| MARSD SQ 187 | C/I 1810 | W-TRNSP    | BARO 999.9   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 233 | 0000  | 020 B   | 31380 |        | 2510 | 14533 |
| 233 | 0010  | 0196    | 31332 |        | 2506 | 14532 |
| 233 | 0019  | 0196    | 31361 |        | 2509 | 14534 |
| 233 | 0029  | 0144    | 31939 |        | 2558 | 14521 |
| 233 | 0038  | 0039    | 32341 |        | 2597 | 14480 |
| 233 | 0048  | -0014   | 32392 |        | 2603 | 14458 |
| 233 | 0072  | -0005   | 32617 |        | 2621 | 14469 |
| 233 | 0096  | 0058    | 32918 |        | 2642 | 14506 |
| 233 | 0144  | 0201    | 33521 |        | 2681 | 14587 |
| 233 | 0183  | 0255    | 33751 |        | 2695 | 14620 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0200 B  | 31380  |        | 2510 | 14533 | 0000    | 00000  | 2872 |
| 0010  | 0196    | 31332  |        | 2506 | 14532 | 0029    | 00001  | 2906 |
| 0020  | 0194    | 3141 D |        | 2513 | 14534 | 0058    | 00006  | 2845 |
| 0030  | 0132    | 3200 B |        | 2564 | 14516 | 0084    | 00013  | 2362 |
| 0050  | -0018   | 32407  |        | 2605 | 14457 | 0128    | 00030  | 1970 |
| 0075  | 0001    | 32653  |        | 2623 | 14473 | 0175    | 00060  | 1790 |
| 0100  | 0071    | 3298 B |        | 2646 | 14514 | 0218    | 00098  | 1579 |
| 0125  | 0148 B  | 3330 E |        | 2667 | 14557 | 0255    | 00140  | 1378 |
| 0150  | 0199 D  | 3353 I |        | 2681 | 14587 | 0288    | 00187  | 1247 |
| 0175  | 0243 B  | 3371 C |        | 2692 | 14613 | 0318    | 00237  | 1147 |



|              |          |         |     |              |             |       |
|--------------|----------|---------|-----|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 295 | WAVES 1 30X2 | AIR T -00.5 | VIS 7 |
| CONS. NO 018 | MONTH 11 | MXSAMPD | 03  | WAVES 2 30X3 | WET B       | STN   |
| LAT 49-480N  | DAY 21   | NO.DPTH | 12  | WND-DIR 310  | WW-CODE 02  |       |
| LON 66-200W  | HR 01.5  | W-COLOR |     | WND-FCE 05   | CLD-TPE     |       |
| MARSD SQ 151 | C/J 1810 | W-TRNSP |     | BARO 1003.0  | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 015 | 0000  | 022 B   | 31419 |        | 2512 | 14542 |
| 015 | 0009  | 0212    | 31409 |        | 2511 | 14540 |
| 015 | 0019  | 0213    | 31407 |        | 2511 | 14542 |
| 015 | 0028  | 0211    | 31431 |        | 2513 | 14543 |
| 015 | 0037  | 0107    | 32097 |        | 2573 | 14507 |
| 015 | 0047  | -0009   | 32403 |        | 2604 | 14460 |
| 015 | 0070  | 0039    | 32812 |        | 2634 | 14492 |
| 015 | 0093  | 0118    | 33192 |        | 2660 | 14537 |
| 015 | 0140  | 0240    | 33699 |        | 2692 | 14605 |
| 015 | 0187  | 0323    | 34047 |        | 2713 | 14654 |
| 015 | 0233  | 0375    | 34303 |        | 2728 | 14687 |
| 015 | 0266  | 0399    | 34416 |        | 2734 | 14704 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0220 B  | 31419  |        | 2512 | 14542 | 0000    | 00000  | 2856 |
| 0010  | 0212    | 31408  |        | 2511 | 14540 | 0029    | 00001  | 2859 |
| 0020  | 0215    | 3139 D |        | 2510 | 14543 | 0058    | 00006  | 2872 |
| 0030  | 0192 B  | 3157 I |        | 2525 | 14537 | 0086    | 00013  | 2724 |
| 0050  | -0016 D | 3247 C |        | 2609 | 14459 | 0132    | 00031  | 1924 |
| 0075  | 0055    | 32900  |        | 2641 | 14501 | 0177    | 00060  | 1629 |
| 0100  | 0139    | 3328 B |        | 2666 | 14549 | 0215    | 00093  | 1386 |
| 0125  | 0206    | 3357 C |        | 2684 | 14586 | 0248    | 00131  | 1221 |
| 0150  | 0261    | 33783  |        | 2697 | 14617 | 0277    | 00172  | 1101 |
| 0175  | 0305    | 33970  |        | 2708 | 14643 | 0304    | 00216  | 1001 |
| 0200  | 0340    | 34129  |        | 2718 | 14664 | 0328    | 00263  | 0915 |
| 0225  | 0368    | 34266  |        | 2726 | 14682 | 0350    | 00311  | 0842 |
| 0250  | 0389    | 34365  |        | 2731 | 14697 | 0371    | 00361  | 0791 |

|              |          |         |     |              |             |       |
|--------------|----------|---------|-----|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 320 | WAVES 1 30X2 | AIR T -00.5 | VIS 7 |
| CONS. NO 019 | MONTH 11 | MXSAMPD | 03  | WAVES 2 30X3 | WET B       | STN   |
| LAT 49-350N  | DAY 21   | NO.DPTH | 12  | WND-DIR 320  | HW-CODE 02  |       |
| LON 66-200W  | HR 03.3  | W-COLOR |     | WND-FCE 04   | CLD-TPE     |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP |     | BARO 1005.0  | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 033 | 0000  | 020 B   | 31213 |        | 2497 | 14531 |
| 033 | 0010  | 0206    | 31191 |        | 2494 | 14535 |
| 033 | 0019  | 0207    | 31197 |        | 2495 | 14537 |
| 033 | 0029  | 0055    | 32111 |        | 2577 | 14483 |
| 033 | 0038  | -0015   | 32461 |        | 2609 | 14457 |
| 033 | 0048  | 0008    | 32640 |        | 2622 | 14472 |
| 033 | 0071  | 0058    | 32939 |        | 2644 | 14502 |
| 033 | 0095  | 0128    | 33236 |        | 2663 | 14542 |
| 033 | 0143  | 0258    | 33780 |        | 2697 | 14615 |
| 033 | 0190  | 0354    | 34195 |        | 2721 | 14670 |
| 033 | 0238  | 0405    | 34463 |        | 2738 | 14703 |
| 033 | 0285  | 0420    | 34564 |        | 2744 | 14718 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0200 B  | 31213  |        | 2497 | 14531 | 0000    | 00000  | 2999 |
| 0010  | 0206    | 31191  |        | 2494 | 14535 | 0030    | 00002  | 3019 |
| 0020  | 0194 B  | 3128 H |        | 2502 | 14532 | 0060    | 00006  | 2944 |
| 0030  | 0044    | 3217 B |        | 2582 | 14478 | 0086    | 00013  | 2183 |
| 0050  | 0012    | 32669  |        | 2624 | 14474 | 0126    | 00029  | 1783 |
| 0075  | 0069    | 32990  |        | 2647 | 14509 | 0168    | 00055  | 1568 |
| 0100  | 0143    | 33297  |        | 2667 | 14550 | 0205    | 00088  | 1379 |
| 0125  | 0212    | 33587  |        | 2685 | 14589 | 0238    | 00126  | 1210 |
| 0150  | 0275    | 33850  |        | 2701 | 14624 | 0267    | 00166  | 1063 |
| 0175  | 0328    | 34077  |        | 2715 | 14654 | 0292    | 00208  | 0941 |
| 0200  | 0368    | 34264  |        | 2726 | 14678 | 0314    | 00251  | 0841 |
| 0225  | 0395    | 34406  |        | 2734 | 14696 | 0334    | 00295  | 0764 |
| 0250  | 0414    | 34502  |        | 2740 | 14709 | 0353    | 00340  | 0714 |

|              |          |         |     |              |             |       |
|--------------|----------|---------|-----|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 310 | WAVES 1 30X2 | AIR T -01.1 | VIS 7 |
| CONS. NO 020 | MONTH 11 | MXSAMPD | 03  | WAVES 2 30X2 | WET B       | STN   |
| LAT 49-250N  | DAY 21   | NO.DPTH | 12  | WND-DIR 320  | WW-CODE 02  |       |
| LON 66-200W  | HR 04.7  | W-COLOR |     | WND-FCE 04   | CLD-TPE     |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP |     | BARO 1007.0  | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 047 | 0000  | 022 B   | 31284 |        | 2501 | 14541 |
| 047 | 0010  | 0226    | 31259 |        | 2498 | 14545 |
| 047 | 0019  | 0227    | 31292 |        | 2501 | 14547 |
| 047 | 0029  | 0179    | 31592 |        | 2528 | 14531 |
| 047 | 0039  | -0007   | 32331 |        | 2598 | 14459 |
| 047 | 0048  | -0012   | 32447 |        | 2608 | 14460 |
| 047 | 0072  | 0039    | 32859 |        | 2638 | 14493 |
| 047 | 0097  | 0100    | 33159 |        | 2659 | 14529 |
| 047 | 0145  | 0211    | 33583 |        | 2685 | 14592 |
| 047 | 0193  | 0320    | 34039 |        | 2712 | 14653 |
| 047 | 0241  | 0386    | 34335 |        | 2729 | 14693 |
| 047 | 0290  | 0420    | 34547 |        | 2743 | 14719 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0220 F  | 31284  |        | 2501 | 14541 | 0000    | 00000  | 2958 |
| 0010  | 0226    | 31259  |        | 2498 | 14545 | 0030    | 00002  | 2981 |
| 0020  | 0226    | 31306  |        | 2502 | 14547 | 0060    | 00006  | 2946 |
| 0030  | 0159 C  | 3167 E |        | 2536 | 14524 | 0088    | 00013  | 2625 |
| 0050  | -0010   | 3248 B |        | 2610 | 14462 | 0133    | 00031  | 1917 |
| 0075  | 0046    | 32900  |        | 2641 | 14497 | 0178    | 00059  | 1623 |
| 0100  | 0107    | 33188  |        | 2661 | 14533 | 0217    | 00094  | 1439 |
| 0125  | 0165    | 3342 C |        | 2675 | 14566 | 0251    | 00133  | 1304 |
| 0150  | 0223    | 33633  |        | 2688 | 14599 | 0282    | 00177  | 1184 |
| 0175  | 0282    | 3388 C |        | 2703 | 14632 | 0311    | 00224  | 1051 |
| 0200  | 0332    | 34090  |        | 2715 | 14660 | 0336    | 00272  | 0937 |
| 0225  | 0368    | 34250  |        | 2724 | 14682 | 0358    | 00321  | 0854 |
| 0250  | 0397    | 3439 C |        | 2733 | 14700 | 0379    | 00371  | 0777 |

|              |          |            |              |             |       |
|--------------|----------|------------|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 240  | WAVES 1 30X2 | AIR T -01.6 | VIS 7 |
| CONS. NO 021 | MONTH 11 | MXSAMPD 02 | WAVES 2 30X2 | WET B       | STN   |
| LAT 49-150N  | DAY 21   | NO.DPTH 11 | WND-DIR 330  | WW-CODE 02  |       |
| LON 66-200W  | HR 06.2  | W-COLOR    | WND-FCE 04   | CLD-TPE     |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1008.0  | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 062 | 0000  | 021 B   | 31103 |        | 2487 | 14534 |
| 062 | 0010  | 0202    | 31047 |        | 2483 | 14531 |
| 062 | 0020  | 0204    | 31063 |        | 2484 | 14534 |
| 062 | 0030  | 0202    | 31483 |        | 2518 | 14540 |
| 062 | 0039  | 0041    | 32195 |        | 2585 | 14479 |
| 062 | 0049  | -0014   | 32380 |        | 2602 | 14458 |
| 062 | 0074  | 0040    | 32770 |        | 2631 | 14492 |
| 062 | 0098  | 0103    | 33140 |        | 2657 | 14530 |
| 062 | 0148  | 0240    | 33706 |        | 2693 | 14607 |
| 062 | 0197  | 0321    | 34049 |        | 2713 | 14655 |
| 062 | 0222  | 0346    | 34155 |        | 2719 | 14671 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0210 B  | 31103 |        | 2487 | 14534 | 0000    | 00000  | 3089 |
| 0010  | 0202    | 31047 |        | 2483 | 14531 | 0031    | 00002  | 3126 |
| 0020  | 0204    | 31063 |        | 2484 | 14534 | 0063    | 00006  | 3115 |
| 0030  | 0202    | 31483 |        | 2518 | 14540 | 0092    | 00014  | 2795 |
| 0050  | -0015   | 32397 |        | 2604 | 14458 | 0140    | 00033  | 1979 |
| 0075  | 0042    | 32786 |        | 2632 | 14494 | 0187    | 00062  | 1708 |
| 0100  | 0109    | 33167 |        | 2659 | 14533 | 0227    | 00097  | 1456 |
| 0125  | 0180 B  | 33476 |        | 2679 | 14573 | 0261    | 00137  | 1269 |
| 0150  | 0244    | 33724 |        | 2694 | 14609 | 0291    | 00179  | 1133 |
| 0175  | 0291    | 33919 |        | 2705 | 14636 | 0318    | 00225  | 1026 |
| 0200  | 0326    | 34067 |        | 2714 | 14657 | 0343    | 00272  | 0948 |

|              |          |         |     |              |             |       |
|--------------|----------|---------|-----|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 311 | WAVES 1 23X2 | AIR T -01.1 | VIS 7 |
| CONS. NO 022 | MONTH 11 | MXSAMPD | 03  | WAVES 2 23X2 | WET B       | STN   |
| LAT 48-161N  | DAY 21   | NO.DPTH | 11  | WNC-DIR 230  | WW-CODE 02  |       |
| LON 69-240W  | HR 20.5  | W-COLOR |     | WNC-FCE 05   | CLD-TPE     |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP |     | BARO 1015.0  | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 205 | 0000  | 008 B   | 27965 |        | 2244 | 14432 |
| 205 | 0010  | 0117    | 28887 | 728    | 2316 | 14464 |
| 205 | 0020  | 0128    | 30823 | 650    | 2470 | 14497 |
| 205 | 0030  | 0120    | 31956 | 675    | 2561 | 14510 |
| 205 | 0050  | 0032    | 32347 | 662    | 2597 | 14479 |
| 205 | 0074  | 0026    | 32607 | 631    | 2619 | 14484 |
| 205 | 0099  | 0050    | 32796 | 590    | 2633 | 14501 |
| 205 | 0149  | 0229    | 33645 | 397    | 2689 | 14601 |
| 205 | 0199  | 0306    | 33983 | 324    | 2709 | 14648 |
| 205 | 0248  | 0366    | 34256 | 271    | 2725 | 14685 |
| 205 | 0298  | 0370    | 34279 | 268    | 2727 | 14695 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0080 B  | 27965  |        | 2244 | 14432 | 0000    | 00000  | 5413 |
| 0010  | 0117    | 28887  |        | 2316 | 14464 | 0051    | 00002  | 4724 |
| 0020  | 0128    | 30823  |        | 2470 | 14497 | 0091    | 00008  | 3251 |
| 0030  | 0120    | 31956  |        | 2561 | 14510 | 0119    | 00015  | 2384 |
| 0050  | 0032    | 32347  |        | 2597 | 14479 | 0164    | 00033  | 2038 |
| 0075  | 0026    | 32614  |        | 2619 | 14484 | 0212    | 00064  | 1831 |
| 0100  | 0053    | 3281 B |        | 2634 | 14503 | 0257    | 00104  | 1693 |
| 0125  | 0139 F  | 3323 I |        | 2662 | 14552 | 0296    | 00149  | 1427 |
| 0150  | 0231    | 33655  |        | 2689 | 14603 | 0329    | 00194  | 1175 |
| 0175  | 0276 B  | 3386 F |        | 2702 | 14629 | 0357    | 00241  | 1061 |
| 0200  | 0308    | 33990  |        | 2709 | 14648 | 0383    | 00291  | 0990 |
| 0225  | 0342    | 3415 C |        | 2719 | 14670 | 0407    | 00343  | 0906 |
| 0250  | 0360 B  | 3423 G |        | 2724 | 14683 | 0429    | 00397  | 0864 |
| 0300  | 0370    | 34278  |        | 2726 | 14695 | 0472    | 00518  | 0841 |



|              |          |            |              |             |       |
|--------------|----------|------------|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 150  | WAVES 1 23X2 | AIR T -01.1 | VIS 7 |
| CONS. NO 023 | MONTH 11 | MXSAMPD 01 | WAVES 2 23X1 | WET B       | STN   |
| LAT 48-098N  | DAY 21   | NO.DPTH 8  | WND-DIR 230  | WW-CODE 02  |       |
| LON 69-340W  | HR 21.7  | W-COLOR    | WND-FCE 05   | CLD-TPE     |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1015.0  | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 217 | 0000  | 008 B   | 28468 |        | 2284 | 14439 |
| 217 | 0010  | 0081    | 28533 | 751    | 2289 | 14442 |
| 217 | 0020  | 0113    | 31547 | 654    | 2529 | 14500 |
| 217 | 0029  | 0060    | 32228 | 663    | 2586 | 14487 |
| 217 | 0049  | 0034    | 32560 | 635    | 2614 | 14483 |
| 217 | 0073  | 0090    | 33008 | 542    | 2647 | 14518 |
| 217 | 0098  | 0160    | 33290 | 424    | 2665 | 14558 |
| 217 | 0147  | 0310    | 34010 | 322    | 2711 | 14641 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0080 B  | 28468  |        | 2284 | 14439 | 0000    | 00000  | 5028 |
| 0010  | 0081    | 28533  |        | 2289 | 14442 | 0050    | 00003  | 4978 |
| 0020  | 0113    | 31547  |        | 2529 | 14500 | 0089    | 00008  | 2691 |
| 0030  | 0056    | 3226 E |        | 2589 | 14486 | 0113    | 00014  | 2115 |
| 0050  | 0035    | 32580  |        | 2616 | 14484 | 0153    | 00030  | 1862 |
| 0075  | 0095    | 33033  |        | 2649 | 14521 | 0196    | 00057  | 1550 |
| 0100  | 0164    | 3338 I |        | 2672 | 14561 | 0232    | 00089  | 1331 |
| 0125  | 0238    | 3373 I |        | 2695 | 14603 | 0263    | 00125  | 1122 |
| *0150 | 0320    | 3405 B |        | 2713 | 14646 | 0289    | 00161  | 0956 |

|              |          |            |              |             |       |
|--------------|----------|------------|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH- 145 | WAVES 1 00X0 | AIR T -02.2 | VIS 7 |
| CONS. NO 024 | MONTH 11 | MXSAMPD 01 | WAVES 2 00X0 | WET B       | STN   |
| LAT 48-076N  | DAY 21   | NO.DPTH 8  | WND-DIR CALM | WW-CODE 02  |       |
| LOX 69-420W  | HR 23.0  | W-COLOR    | WND-FCE 00   | CLO-TPE     |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1015.0  | CLO-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 230 | 0000  | 017 B   | 13839 |        | 1111 | 14285 |
| 230 | 0009  | 0096    | 26880 | 745    | 2156 | 14426 |
| 230 | 0018  | 0090    | 27279 | 739    | 2188 | 14431 |
| 230 | 0027  | 0086    | 28020 | 739    | 2248 | 14440 |
| 230 | 0045  | 0083    | 28495 | 731    | 2286 | 14448 |
| 230 | 0063  | 0084    | 28772 | 709    | 2308 | 14456 |
| 230 | 0091  | 0082    | 29172 | 691    | 2340 | 14465 |
| 230 | 0118  | 0082    | 30223 | 691    | 2424 | 14484 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA   |
|-------|---------|--------|--------|------|-------|---------|--------|-------|
| 0000  | 0170 B  | 13839  |        | 1111 | 14285 | 0000    | 00000  | 16365 |
| 0010  | 0094    | 2723 I |        | 2184 | 14430 | 0111    | 00003  | 5983  |
| 0020  | 0089    | 2744 G |        | 2201 | 14433 | 0171    | 00012  | 5815  |
| 0030  | 0085    | 2815 I |        | 2258 | 14442 | 0226    | 00026  | 5269  |
| 0050  | 0083    | 2858 B |        | 2293 | 14451 | 0329    | 00068  | 4938  |
| 0075  | 0083    | 2890 I |        | 2319 | 14459 | 0449    | 00144  | 4691  |
| 0100  | 0083    | 2956 I |        | 2371 | 14472 | 0561    | 00243  | 4189  |

|              |          |            |              |             |       |
|--------------|----------|------------|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 182  | WAVES 1 23X1 | AIR T -01.1 | VIS 7 |
| CONS. NO 025 | MONTH 11 | MXSAMPD 02 | WAVES 2 23X1 | WET B       | STN   |
| LAT 48-088N  | DAY 22   | NO.DPTH 9  | WND-DIR 230  | WW-CODE 02  |       |
| LON 69-477W  | HR 00.4  | W-COLOR    | WND-FCE 01   | CLD-TPE     |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1016.0  | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 004 | 0000  | 017 B   | 11593 |        | 0932 | 14256 |
| 004 | 0010  | 0126    | 23524 | 755    | 1886 | 14395 |
| 004 | 0020  | 0113    | 27503 | 725    | 2205 | 14445 |
| 004 | 0030  |         | 28671 | 713    |      |       |
| 004 | 0050  | 0114    | 28910 | 705    | 2318 | 14469 |
| 004 | 0075  | 0108    | 29223 | 704    | 2343 | 14475 |
| 004 | 0099  | 0110    | 29262 | 706    | 2346 | 14480 |
| 004 | 0149  | 0118    | 29617 | 691    | 2374 | 14497 |
| 004 | 0174  |         | 29684 | 688    |      |       |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA   |
|-------|---------|--------|--------|------|-------|---------|--------|-------|
| 0000  | 0170 B  | 11593  |        | 0932 | 14256 | 0000    | 00000  | 18126 |
| 0010  | 0126    | 23524  |        | 1886 | 14395 | 0134    | 00004  | 8841  |
| 0020  | 0113    | 27503  |        | 2205 | 14444 | 0207    | 00015  | 5780  |
| 0030  | 0110 B  | 28671  |        | 2299 | 14461 | 0261    | 00028  | 4884  |
| 0050  | 0114    | 28910  |        | 2318 | 14469 | 0357    | 00067  | 4702  |
| 0075  | 0108    | 29223  |        | 2343 | 14475 | 0472    | 00140  | 4459  |
| 0100  | 0108    | 29269  |        | 2347 | 14480 | 0584    | 00240  | 4422  |
| 0125  | 0111    | 2944 I |        | 2360 | 14487 | 0693    | 00366  | 4291  |
| 0150  |         | 2956 I |        |      |       |         |        |       |
| 0175  |         | 29689  |        |      |       |         |        |       |

|              |          |         |    |              |             |       |
|--------------|----------|---------|----|--------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 90 | WAVES 1 14X1 | AIR T -01.1 | VIS 7 |
| CONS. NO 026 | MONTH 11 | MXSAMPD | 01 | WAVES 2 14X1 | WET B       | STN   |
| LAT 48-246N  | DAY 22   | NO.DPTH | 6  | WND-DIR 140  | HW-CODE 02  |       |
| LON 70-500W  | HR 12.1  | W-COLOR |    | WND-FCE 01   | CLD-TPE     |       |
| MARSD SQ 152 | C/I 1810 | W-TRNSP |    | BARO 1014.0  | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 121 | 0000  | 016 B   | 04054 |        | 0326 | 14154 |
| 121 | 0010  | 0244    | 16237 | 749    | 1301 | 14352 |
| 121 | 0020  | 0298    | 27518 | 633    | 2195 | 14527 |
| 121 | 0030  | 0161    | 28500 | 596    | 2282 | 14481 |
| 121 | 0050  | 0104    | 29234 | 537    | 2344 | 14469 |
| 121 | 0075  | 0107    | 29462 | 504    | 2362 | 14478 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA   |
|-------|---------|-------|--------|------|-------|---------|--------|-------|
| 0000  | 0160 B  | 04054 |        | 0326 | 14154 | 0000    | 00000  | 24104 |
| 0010  | 0244    | 16237 |        | 1301 | 14352 | 0191    | 00007  | 14509 |
| 0020  | 0298    | 27518 |        | 2195 | 14527 | 0293    | 00020  | 5873  |
| 0030  | 0161    | 28500 |        | 2282 | 14481 | 0347    | 00034  | 5041  |
| 0050  | 0104    | 29234 |        | 2344 | 14469 | 0443    | 00072  | 4450  |
| 0075  | 0107    | 29462 |        | 2362 | 14477 | 0552    | 00142  | 4276  |

|              |          |            |             |             |       |
|--------------|----------|------------|-------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 260  | WAVES 1 XX  | AIR T -01.1 | VIS 7 |
| CONS. NO 027 | MONTH 11 | MXSAMPD 02 | WAVES 2 XX  | WET B       | STN   |
| LAT 48-220N  | DAY 22   | NO.DPTH 10 | WND-DIR 090 | WW-CODE 02  |       |
| LON 70-340W  | HR 13.9  | W-COLOR    | WND-FCE 02  | CLD-TPE     |       |
| MARSD SQ 152 | C/I 1810 | W-TRNSP    | BARO 1014.0 | CLD-AMT     | HW    |

## O B S E R V E D

|  | GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|--|-----|-------|---------|-------|--------|------|-------|
|  | 139 | 0000  | 018 B   | 11488 |        | 0923 | 14259 |
|  | 139 | 0010  | 0324    | 26458 | 661    | 2109 | 14523 |
|  | 139 | 0019  | 0291    | 28133 | 640    | 2245 | 14532 |
|  | 139 | 0029  | 0234    | 28603 | 636    | 2286 | 14515 |
|  | 139 | 0049  | 0129    | 29140 | 602    | 2335 | 14479 |
|  | 139 | 0073  | 0146    | 29505 | 618    | 2364 | 14495 |
|  | 139 | 0097  | 0169    | 29697 | 627    | 2378 | 14512 |
|  | 139 | 0145  | 0150    | 29913 | 607    | 2396 | 14515 |
|  | 139 | 0194  | 0133    | 30036 | 581    | 2407 | 14517 |
|  | 139 | 0233  | 0144    | 30096 | 598    | 2411 | 14529 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA   |
|-------|---------|--------|--------|------|-------|---------|--------|-------|
| 0000  | 0180 B  | 11488  |        | 0923 | 14259 | 0000    | 00000  | 18209 |
| 0010  | 0324    | 26458  |        | 2109 | 14523 | 0124    | 00003  | 6698  |
| 0020  | 0286    | 2822 G |        | 2252 | 14531 | 0184    | 00012  | 5334  |
| 0030  | 0227    | 28639  |        | 2289 | 14513 | 0236    | 00025  | 4974  |
| 0050  | 0128    | 29160  |        | 2337 | 14479 | 0331    | 00064  | 4518  |
| 0075  | 0148    | 29525  |        | 2365 | 14497 | 0441    | 00134  | 4249  |
| 0100  | 0169    | 29715  |        | 2379 | 14513 | 0546    | 00227  | 4116  |
| 0125  | 0163 B  | 2984 B |        | 2390 | 14516 | 0649    | 00345  | 4015  |
| 0150  | 0147    | 29929  |        | 2397 | 14514 | 0749    | 00485  | 3939  |
| 0175  | 0137    | 29997  |        | 2403 | 14515 | 0847    | 00649  | 3880  |
| 0200  | 0138 B  | 30054  |        | 2408 | 14520 | 0944    | 00835  | 3836  |
| 0225  | 0142    | 30089  |        | 2411 | 14526 | 1040    | 01044  | 3811  |



|              |          |             |             |            |             |       |
|--------------|----------|-------------|-------------|------------|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 265   | WAVES 1     | XX         | AIR T -01.1 | VIS 7 |
| CONS. NO 028 | MONTH 11 | MXSAMPD 02  | WAVES 2     | XX         | WET B       | STN   |
| LAT 48-215N  | DAY 22   | NO. DPTH 10 | WND-DIR 090 | WW-CODE 02 |             |       |
| LON 70-235W  | HR 15.1  | W-COLOR     | WND-FCE 02  | CLD-TPE    |             |       |
| MARSD SQ 152 | C/I 1810 | W-TRNSP     | BARO 1013.0 | CLD-AMT    |             | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 151 | 0000  | 017 B   | 10811 |        | 0869 | 14246 |
| 151 | 0010  | 0289    | 27066 | 662    | 2160 | 14516 |
| 151 | 0020  | 0306    | 28271 | 650    | 2255 | 14541 |
| 151 | 0029  | 0236    | 28784 | 634    | 2300 | 14519 |
| 151 | 0049  | 0188    | 29207 | 627    | 2337 | 14506 |
| 151 | 0073  | 0182    | 29548 | 629    | 2365 | 14512 |
| 151 | 0098  | 0204    | 29724 | 636    | 2378 | 14528 |
| 151 | 0147  | 0180    | 29933 | 628    | 2396 | 14529 |
| 151 | 0195  | 0160    | 30053 | 609    | 2407 | 14529 |
| 151 | 0234  | 0162    | 30111 | 633    | 2411 | 14537 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA   |
|-------|---------|--------|--------|------|-------|---------|--------|-------|
| 0000  | 0170 B  | 10811  |        | 0869 | 14246 | 0000    | 00000  | 18741 |
| 0010  | 0289    | 27066  |        | 2160 | 14516 | 0124    | 00003  | 6211  |
| 0020  | 0306    | 28271  |        | 2255 | 14541 | 0182    | 00012  | 5306  |
| 0030  | 0231    | 2882 B |        | 2304 | 14517 | 0233    | 00025  | 4839  |
| 0050  | 0187    | 29225  |        | 2339 | 14506 | 0327    | 00063  | 4502  |
| 0075  | 0184    | 29566  |        | 2366 | 14513 | 0436    | 00132  | 4239  |
| 0100  | 0204    | 29735  |        | 2378 | 14529 | 0541    | 00226  | 4123  |
| 0125  | 0196 B  | 2986 B |        | 2389 | 14531 | 0644    | 00344  | 4025  |
| 0150  | 0178    | 29943  |        | 2397 | 14528 | 0744    | 00484  | 3948  |
| 0175  | 0167    | 30011  |        | 2403 | 14528 | 0842    | 00648  | 3887  |
| 0200  | 0162    | 30067  |        | 2408 | 14531 | 0940    | 00834  | 3842  |
| 0225  | 0161    | 30103  |        | 2410 | 14535 | 1036    | 01044  | 3813  |

|              |          |            |             |    |             |       |
|--------------|----------|------------|-------------|----|-------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 265  | WAVES 1     | XX | AIR T -01.1 | VIS 7 |
| CONS. NO 029 | MONTH 11 | MXSAMPD 02 | WAVES 2     | XX | WET B       | STN   |
| LAT 48-179N  | DAY 22   | NO.DPTH 10 | WNL-DIR 090 |    | WW-CODE 02  |       |
| LON 70-145W  | HR 16.3  | W-COLOR    | WND-FCE 02  |    | CLD-TPE     |       |
| MARSD SQ 152 | C/I 1810 | W-TRNSP    | BARO 1013.0 |    | CLD-AMT     | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 163 | 0000  | 015 B   | 10558 |        | 0849 | 14233 |
| 163 | 0010  | 0236    | 26242 | 678    | 2098 | 14481 |
| 163 | 0020  | 0288    | 28515 | 653    | 2275 | 14536 |
| 163 | 0030  | 0260    | 28991 | 643    | 2315 | 14532 |
| 163 | 0050  | 0222    | 29322 | 635    | 2344 | 14523 |
| 163 | 0075  | 0216    | 29578 | 640    | 2365 | 14528 |
| 163 | 0100  | 0198    | 29754 | 645    | 2380 | 14527 |
| 163 | 0150  | 0174    | 29986 | 631    | 2400 | 14527 |
| 163 | 0200  | 0164    | 30053 | 621    | 2406 | 14532 |
| 163 | 0240  | 0162    | 30089 | 631    | 2409 | 14538 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA   |
|-------|---------|--------|--------|------|-------|---------|--------|-------|
| 0000  | 0150 B  | 10558  |        | 0849 | 14233 | 0000    | 00000  | 18940 |
| 0010  | 0236    | 26242  |        | 2098 | 14481 | 0128    | 00003  | 6807  |
| 0020  | 0288    | 28515  |        | 2275 | 14536 | 0188    | 00012  | 5108  |
| 0030  | 0260    | 28991  |        | 2315 | 14532 | 0237    | 00025  | 4727  |
| 0050  | 0222    | 29322  |        | 2344 | 14523 | 0329    | 00062  | 4450  |
| 0075  | 0216    | 29578  |        | 2365 | 14528 | 0439    | 00131  | 4251  |
| 0100  | 0198    | 29754  |        | 2380 | 14526 | 0544    | 00225  | 4105  |
| 0125  | 0184    | 29890  |        | 2392 | 14526 | 0645    | 00342  | 3992  |
| 0150  | 0174    | 29986  |        | 2400 | 14527 | 0745    | 00481  | 3912  |
| 0175  | 0168    | 3003 B |        | 2404 | 14529 | 0842    | 00644  | 3873  |
| 0200  | 0164    | 30053  |        | 2406 | 14532 | 0940    | 00830  | 3853  |
| 0225  | 0162    | 3009 B |        | 2409 | 14535 | 1036    | 01040  | 3822  |

|              |          |            |             |            |            |       |
|--------------|----------|------------|-------------|------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 190  | WAVES 1     | XX         | AIR T 01.1 | VIS 7 |
| CONS. NO 030 | MONTH 11 | MXSAMPD 02 | WAVES 2     | XX         | WET B      | STN   |
| LAT 48-152N  | DAY 22   | NC.DPTH 9  | WND-DIR 090 | WW-CODE 02 |            |       |
| LON 70-042W  | HR 17.4  | W-COLOR    | WND-FCE 02  | CLD-TPE    |            |       |
| MARSD SQ 152 | C/I 1810 | W-TRNSP    | BARO 1013.0 | CLD-AMT    |            | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 174 | 0000  | 016 B   | 10036 |        | 0807 | 14231 |
| 174 | 0010  | 0183    | 25625 | 701    | 2052 | 14449 |
| 174 | 0020  | 0198    | 28567 | 667    | 2286 | 14497 |
| 174 | 0030  | 0191    | 29014 | 666    | 2322 | 14502 |
| 174 | 0050  | 0214    | 29399 | 653    | 2351 | 14521 |
| 174 | 0075  | 0228    | 29535 | 642    | 2361 | 14533 |
| 174 | 0100  | 0199    | 29710 | 648    | 2377 | 14526 |
| 174 | 0150  | 0166    | 29998 | 654    | 2402 | 14524 |
| 174 | 0175  | 0165    | 30057 | 648    | 2407 | 14528 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA   |
|-------|---------|--------|--------|------|-------|---------|--------|-------|
| 0000  | 0160 B  | 10036  |        | 0807 | 14231 | 0000    | 00000  | 19352 |
| 0010  | 0183    | 25625  |        | 2052 | 14449 | 0132    | 00004  | 7251  |
| 0020  | 0198    | 28567  |        | 2286 | 14497 | 0194    | 00012  | 5011  |
| 0030  | 0191    | 29014  |        | 2322 | 14502 | 0242    | 00025  | 4666  |
| 0050  | 0214    | 29399  |        | 2351 | 14521 | 0333    | 00062  | 4386  |
| 0075  | 0228    | 29535  |        | 2361 | 14533 | 0442    | 00131  | 4291  |
| 0100  | 0199    | 29710  |        | 2377 | 14526 | 0548    | 00225  | 4139  |
| 0125  | 0178    | 2987 B |        | 2391 | 14523 | 0650    | 00343  | 4001  |
| 0150  | 0166    | 29998  |        | 2402 | 14524 | 0750    | 00482  | 3898  |
| 0175  | 0165    | 30057  |        | 2407 | 14528 | 0847    | 00644  | 3851  |

|              |          |            |             |            |            |       |
|--------------|----------|------------|-------------|------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 140  | WAVES 1     | XX         | AIR T 02.2 | VIS 7 |
| CONS. NO 031 | MONTH 11 | MXSAMPD 01 | WAVES 2     | XX         | WET B      | STN   |
| LAT 48-136N  | DAY 22   | NO.DPTH 7  | WNC-DIR 090 | WW-CODE 02 |            |       |
| LON 69-539W  | HR 18.4  | W-COLOR    | WNC-FCE 01  | CLD-TPE    |            |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1013.0 | CLD-AMT    |            | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 184 | 0000  | 016 B   | 12383 |        | 0995 | 14262 |
| 184 | 0010  | 0159    | 26247 | 706    | 2103 | 14447 |
| 184 | 0020  | 0148    | 28752 | 683    | 2303 | 14477 |
| 184 | 0040  | 0170    | 29252 | 668    | 2342 | 14497 |
| 184 | 0065  | 0180    | 29466 | 660    | 2358 | 14509 |
| 184 | 0090  | 0174    | 29625 | 661    | 2372 | 14512 |
| 184 | 0130  | 0168    | 29812 | 660    | 2387 | 14519 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA   |
|-------|---------|--------|--------|------|-------|---------|--------|-------|
| 0000  | 0160 B  | 12383  |        | 0995 | 14262 | 0000    | 00000  | 17505 |
| 0010  | 0159    | 26247  |        | 2103 | 14447 | 0121    | 00003  | 6763  |
| 0020  | 0148    | 28752  |        | 2303 | 14477 | 0179    | 00012  | 4842  |
| 0030  | 0156 B  | 2940 I |        | 2354 | 14491 | 0225    | 00023  | 4354  |
| 0050  | 0176    | 2937 E |        | 2351 | 14503 | 0313    | 00059  | 4386  |
| 0075  | 0178    | 29535  |        | 2364 | 14511 | 0422    | 00128  | 4260  |
| 0100  | 0177    | 29686  |        | 2376 | 14516 | 0527    | 00223  | 4143  |
| 0125  | 0170    | 29795  |        | 2385 | 14519 | 0630    | 00341  | 4055  |

|              |          |         |     |              |            |       |
|--------------|----------|---------|-----|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 329 | WAVES 1 11X1 | AIR T 04.9 | VIS 7 |
| CONS. NO 032 | MONTH 11 | MXSAMPD | 03  | WAVES 2 11X1 | WET B      | STN   |
| LAT 49-260N  | DAY 23   | NO.DPTH | 12  | WND-DIR 110  | WW-CODE 02 |       |
| LON 65-370W  | HR 10.2  | W-COLOR |     | WND-FCE 02   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP |     | BARO 1011.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 102 | 0000  | 020     | B     |        |      |       |
| 102 | 0010  | 0191    |       |        |      |       |
| 102 | 0019  | 0182    |       |        |      |       |
| 102 | 0029  | 0122    |       |        |      |       |
| 102 | 0039  | 0007    |       |        |      |       |
| 102 | 0048  | 0008    |       |        |      |       |
| 102 | 0072  | 0047    |       |        |      |       |
| 102 | 0097  | 0090    |       |        |      |       |
| 102 | 0145  | 0246    |       |        |      |       |
| 102 | 0193  | 0339    |       |        |      |       |
| 102 | 0241  | 0409    |       |        |      |       |
| 102 | 0289  | 0422    |       |        |      |       |

#TIME-DISTANCE CHECK FAILED

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA |
|-------|---------|-------|--------|------|-------|---------|--------|-----|
| 0000  | 0200    | B     |        |      |       |         |        |     |
| 0010  | 0191    |       |        |      |       |         |        |     |
| 0020  | 0178    |       |        |      |       |         |        |     |
| 0030  | 0109    | B     |        |      |       |         |        |     |
| 0050  | 0010    |       |        |      |       |         |        |     |
| 0075  | 0051    |       |        |      |       |         |        |     |
| 0100  | 0099    |       |        |      |       |         |        |     |
| 0125  | 0179    | C     |        |      |       |         |        |     |
| 0150  | 0258    |       |        |      |       |         |        |     |
| 0175  | 0309    |       |        |      |       |         |        |     |
| 0200  | 0352    |       |        |      |       |         |        |     |
| 0225  | 0390    |       |        |      |       |         |        |     |
| 0250  | 0410    | B     |        |      |       |         |        |     |



|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 190  | WAVES 1 14X1 | AIR T 05.5 | VIS 7 |
| CONS. NO 033 | MONTH 11 | MXSAMPD 01 | WAVES 2 14X2 | WET B      | STN   |
| LAT 49-128N  | DAY 23   | NO.DPTH 9  | WNO-DIR 140  | WW-CODE 02 |       |
| LON 64-495W  | HR 13.9  | W-COLOR    | WNO-FCE 02   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1011.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 139 | 0000  | 016 B   | 28800 |        | 2306 | 14480 |
| 139 | 0010  | 0138    | 28805 |        | 2308 | 14472 |
| 139 | 0020  | 0167    | 29502 |        | 2362 | 14496 |
| 139 | 0030  | 0180    | 29897 |        | 2393 | 14509 |
| 139 | 0039  | 0188    | 30077 |        | 2407 | 14516 |
| 139 | 0049  | 0189    | 30239 |        | 2420 | 14521 |
| 139 | 0074  | 0011    | 32475 |        | 2609 | 14475 |
| 139 | 0098  | 0072    | 32949 |        | 2644 | 14513 |
| 139 | 0148  | 0202    | 33541 |        | 2682 | 14588 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0160 B  | 28800  |        | 2306 | 14480 | 0000    | 00000  | 4813 |
| 0010  | 0138    | 28805  |        | 2308 | 14472 | 0048    | 00002  | 4797 |
| 0020  | 0167    | 29502  |        | 2362 | 14496 | 0094    | 00009  | 4280 |
| 0030  | 0180    | 29897  |        | 2393 | 14509 | 0135    | 00020  | 3987 |
| 0050  | 0182 B  | 3032 I |        | 2427 | 14519 | 0212    | 00051  | 3665 |
| 0075  | 0011    | 3251 C |        | 2612 | 14476 | 0282    | 00093  | 1902 |
| 0100  | 0014 I  | 3341 I |        | 2683 | 14494 | 0322    | 00127  | 1222 |
| 0125  | 0069 I  | 3382 I |        | 2714 | 14529 | 0349    | 00158  | 0936 |
| *0150 | 0217 B  | 3349 G |        | 2677 | 14594 | 0377    | 00198  | 1290 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 365  | WAVES 1 12X1 | AIR T 05.5 | VIS 7 |
| CONS. NO 034 | MONTH 11 | MXSAMPD 03 | WAVES 2 12X2 | WET B      | STN   |
| LAT 49-184N  | DAY 23   | NO.DPTH 13 | WND-DIR 120  | WW-CODE 02 |       |
| LON 64-450W  | HR 15.1  | W-COLOR    | WNC-FCE 02   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1010.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 151 | 0000  | 018 B   | 29601 |        | 2369 | 14500 |
| 151 | 0009  | 0172    | 29664 |        | 2375 | 14499 |
| 151 | 0019  | 0198    | 30673 |        | 2454 | 14526 |
| 151 | 0028  | 0210    | 30932 |        | 2474 | 14536 |
| 151 | 0038  | 0230    | 31122 |        | 2487 | 14549 |
| 151 | 0047  | 0208    | 31444 |        | 2515 | 14545 |
| 151 | 0071  | 0029    | 32381 |        | 2600 | 14482 |
| 151 | 0094  | 0036    | 32684 |        | 2624 | 14493 |
| 151 | 0141  | 0178    | 33438 |        | 2676 | 14575 |
| 151 | 0188  | 0292    | 33903 |        | 2704 | 14639 |
| 151 | 0235  | 0374    | 34275 |        | 2726 | 14686 |
| 151 | 0282  | 0412    | 34510 |        | 2741 | 14713 |
| 151 | 0329  | 0422    | 34633 |        | 2749 | 14727 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0180 B  | 29601  |        | 2369 | 14500 | 0000    | 00000  | 4213 |
| 0010  | 0174    | 2976 I |        | 2382 | 14501 | 0042    | 00002  | 4088 |
| 0020  | 0199    | 3072 C |        | 2457 | 14527 | 0079    | 00008  | 3374 |
| 0030  | 0216    | 3097 C |        | 2476 | 14539 | 0112    | 00016  | 3196 |
| 0050  | 0185 C  | 3158 E |        | 2527 | 14537 | 0172    | 00040  | 2713 |
| 0075  | 0022 B  | 3245 E |        | 2606 | 14480 | 0230    | 00076  | 1952 |
| 0100  | 0050 B  | 3278 C |        | 2632 | 14502 | 0276    | 00117  | 1714 |
| 0125  | 0122 D  | 3319 F |        | 2660 | 14543 | 0316    | 00163  | 1449 |
| 0150  | 0202    | 3354 B |        | 2683 | 14588 | 0350    | 00210  | 1237 |
| 0175  | 0263    | 3379 B |        | 2698 | 14623 | 0380    | 00259  | 1097 |
| 0200  | 0317    | 34009  |        | 2710 | 14653 | 0406    | 00309  | 0984 |
| 0225  | 0360    | 34205  |        | 2722 | 14678 | 0429    | 00360  | 0879 |
| 0250  | 0390    | 34364  |        | 2731 | 14697 | 0450    | 00412  | 0793 |
| 0300  | 0422    | 34574  |        | 2745 | 14721 | 0487    | 00515  | 0673 |

|              |          |             |              |            |       |
|--------------|----------|-------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 369   | WAVES 1 13X2 | AIR T 06.1 | VIS 6 |
| CONS. NO 035 | MONTH 11 | MXSAMPD 03  | WAVES 2 13X3 | WET B      | STN   |
| LAT 49-240N  | DAY 23   | NO. DPTH 13 | WND-DIR 130  | WW-CODE 50 |       |
| LON 64-400W  | HR 16.6  | W-COLOR     | WND-FCE 04   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP     | BARO 1009.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 166 | 0000  | 020 B   | 30856 |        | 2468 | 14526 |
| 166 | 0009  | 0204    | 30888 |        | 2470 | 14530 |
| 166 | 0018  | 0207    | 31475 |        | 2517 | 14540 |
| 166 | 0028  | 0172    | 31932 |        | 2556 | 14533 |
| 166 | 0037  | 0103    | 32213 |        | 2583 | 14507 |
| 166 | 0046  | 0089    | 32278 |        | 2589 | 14503 |
| 166 | 0069  | 0051    | 32487 |        | 2608 | 14493 |
| 166 | 0092  | 0040    | 32727 |        | 2628 | 14495 |
| 166 | 0138  | 0176    | 33435 |        | 2676 | 14573 |
| 166 | 0184  | 0312    | 33994 |        | 2709 | 14648 |
| 166 | 0230  | 0392    | 34366 |        | 2731 | 14695 |
| 166 | 0276  | 0417    | 34568 |        | 2745 | 14715 |
| 166 | 0322  | 0420    | 34642 |        | 2750 | 14725 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0200 B  | 30856  |        | 2468 | 14526 | 0000    | 00000  | 3270 |
| 0010  | 0205    | 3094 D |        | 2475 | 14531 | 0033    | 00002  | 3207 |
| 0020  | 0203    | 31581  |        | 2526 | 14541 | 0062    | 00006  | 2722 |
| 0030  | 0156 B  | 32009  |        | 2563 | 14527 | 0088    | 00013  | 2365 |
| 0050  | 0082    | 32311  |        | 2592 | 14501 | 0133    | 00031  | 2091 |
| 0075  | 0044    | 32544  |        | 2613 | 14491 | 0183    | 00063  | 1893 |
| 0100  | 0056 C  | 3285 D |        | 2636 | 14505 | 0228    | 00102  | 1670 |
| 0125  | 0127 D  | 3323 E |        | 2663 | 14546 | 0267    | 00147  | 1422 |
| 0150  | 0214    | 33597  |        | 2686 | 14594 | 0300    | 00193  | 1205 |
| 0175  | 0288    | 33898  |        | 2704 | 14635 | 0328    | 00240  | 1040 |
| 0200  | 0346    | 34144  |        | 2718 | 14667 | 0353    | 00287  | 0910 |
| 0225  | 0386    | 34334  |        | 2729 | 14691 | 0374    | 00334  | 0809 |
| 0250  | 0408    | 34472  |        | 2738 | 14706 | 0394    | 00382  | 0730 |
| 0300  | 0426    | 34629  |        | 2749 | 14724 | 0428    | 00479  | 0637 |

|              |          |         |     |              |            |       |
|--------------|----------|---------|-----|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 295 | WAVES 1 13X2 | AIR T 06.1 | VIS 6 |
| CONS. NO 036 | MONTH 11 | MXSAMPD | 03  | WAVES 2 13X3 | WET B      | STN   |
| LAT 49-320N  | DAY 23   | NO.DPTH | 12  | WNC-DIR 130  | WW-CODE 50 |       |
| LUN 64-300W  | HR 18.4  | W-COLOR |     | WNC-FCE 04   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP |     | BARO 1007.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 184 | 0000  | 015 B   | 31650 |        | 2535 | 14515 |
| 184 | 0009  | 0130    | 31714 |        | 2541 | 14508 |
| 184 | 0019  | 0128    | 31721 |        | 2542 | 14509 |
| 184 | 0028  | 0128    | 31724 |        | 2542 | 14510 |
| 184 | 0038  | 0129    | 31892 |        | 2556 | 14515 |
| 184 | 0047  | 0058    | 32181 |        | 2583 | 14488 |
| 184 | 0071  | 0012    | 32588 |        | 2618 | 14477 |
| 184 | 0094  | 0036    | 32798 |        | 2634 | 14494 |
| 184 | 0141  | 0197    | 33505 |        | 2680 | 14584 |
| 184 | 0188  | 0315    | 33978 |        | 2708 | 14650 |
| 184 | 0235  | 0389    | 34353 |        | 2731 | 14694 |
| 184 | 0272  | 0410    | 34495 |        | 2740 | 14711 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0150 B  | 31650  |        | 2535 | 14515 | 0000    | 00000  | 2635 |
| 0010  | 0129    | 31716  |        | 2541 | 14508 | 0026    | 00001  | 2572 |
| 0020  | 0128    | 31718  |        | 2542 | 14509 | 0052    | 00005  | 2570 |
| 0030  | 0132    | 31744  |        | 2544 | 14512 | 0078    | 00012  | 2552 |
| 0050  | 0045 B  | 3225 B |        | 2589 | 14483 | 0125    | 00031  | 2117 |
| 0075  | 0012    | 3263 B |        | 2621 | 14478 | 0174    | 00062  | 1814 |
| 0100  | 0054 B  | 3288 D |        | 2640 | 14504 | 0218    | 00101  | 1639 |
| 0125  | 0136 D  | 3326 H |        | 2664 | 14551 | 0256    | 00145  | 1406 |
| 0150  | 0223    | 33608  |        | 2686 | 14598 | 0289    | 00191  | 1203 |
| 0175  | 0287    | 3386 B |        | 2701 | 14634 | 0318    | 00238  | 1065 |
| 0200  | 0339    | 3409 B |        | 2714 | 14663 | 0343    | 00287  | 0944 |
| 0225  | 0377    | 34286  |        | 2726 | 14686 | 0365    | 00335  | 0836 |
| 0250  | 0400    | 3441 C |        | 2734 | 14702 | 0386    | 00385  | 0767 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 164  | WAVES 1 13X2 | AIR T 05.5 | VIS 5 |
| CONS. NO 037 | MONTH 11 | MXSAMPD 01 | WAVES 2 13X3 | WET B      | STN   |
| LAT 49-400N  | DAY 23   | NO.DPTH 9  | WND-DIR 130  | WW-CODE 61 |       |
| LON 64-250W  | HR 19.8  | W-COLOR    | WND-FCE 03   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1006.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 198 | 0000  | 020 B   | 31621 |        | 2529 | 14536 |
| 198 | 0010  | 0187    | 31621 |        | 2530 | 14532 |
| 198 | 0020  | 0186    | 31618 |        | 2530 | 14533 |
| 198 | 0030  | 0187    | 31623 |        | 2530 | 14536 |
| 198 | 0039  | 0186    | 31639 |        | 2532 | 14537 |
| 198 | 0049  | 0152    | 31838 |        | 2550 | 14526 |
| 198 | 0074  | 0014    | 32461 |        | 2607 | 14476 |
| 198 | 0098  | 0022    | 32702 |        | 2626 | 14487 |
| 198 | 0148  | 0184    | 33467 |        | 2678 | 14579 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0200 B  | 31621  |        | 2529 | 14536 | 0000    | 00000  | 2689 |
| 0010  | 0187    | 31621  |        | 2530 | 14532 | 0027    | 00001  | 2680 |
| 0020  | 0186    | 31618  |        | 2530 | 14533 | 0054    | 00006  | 2682 |
| 0030  | 0187    | 31623  |        | 2530 | 14536 | 0081    | 00012  | 2678 |
| 0050  | 0146    | 3187 B |        | 2552 | 14524 | 0133    | 00033  | 2468 |
| 0075  | 0013    | 32474  |        | 2609 | 14476 | 0188    | 00068  | 1932 |
| 0100  | -0001 H | 3285 I |        | 2639 | 14479 | 0233    | 00108  | 1640 |
| 0125  | 0056 F  | 3321 I |        | 2666 | 14514 | 0271    | 00152  | 1392 |
| *0150 | 0199    | 3349 B |        | 2678 | 14586 | 0305    | 00199  | 1277 |



|              |          |         |     |              |            |       |
|--------------|----------|---------|-----|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 384 | WAVES 1 09X2 | AIR T 05.5 | VIS 3 |
| CONS. NO 038 | MONTH 11 | MXSAMPD | 03  | WAVES 2 09X2 | WET B      | STN   |
| LAT 49-100N  | DAY 24   | NO.DPTH | 13  | WND-DIR 090  | WW-CODE 60 |       |
| LON 63-532W  | HR 02.6  | W-COLOR |     | WNC-FCE 03   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP |     | BARO 999.0   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 026 | 0000  | 020 B   | 30163 |        | 2413 | 14517 |
| 026 | 0009  | 0206    | 30670 |        | 2453 | 14528 |
| 026 | 0019  | 0185    | 31475 |        | 2519 | 14531 |
| 026 | 0028  | 0130    | 32002 |        | 2564 | 14515 |
| 026 | 0038  | 0079    | 32178 |        | 2581 | 14496 |
| 026 | 0047  | 0029    | 32357 |        | 2598 | 14477 |
| 026 | 0070  | 0031    | 32689 |        | 2625 | 14487 |
| 026 | 0094  | 0073    | 32971 |        | 2645 | 14514 |
| 026 | 0141  | 0210    | 33559 |        | 2683 | 14590 |
| 026 | 0188  | 0328    | 34022 |        | 2710 | 14656 |
| 026 | 0235  | 0380    | 34279 |        | 2726 | 14689 |
| 026 | 0282  | 0416    | 34520 |        | 2741 | 14715 |
| 026 | 0329  | 0422    | 34632 |        | 2749 | 14727 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0200 B  | 30163  |        | 2413 | 14517 | 0000    | 00000  | 3797 |
| 0010  | 0206    | 3075 C |        | 2459 | 14529 | 0036    | 00002  | 3354 |
| 0020  | 0180    | 31547  |        | 2525 | 14530 | 0067    | 00006  | 2732 |
| 0030  | 0120    | 3205 D |        | 2569 | 14511 | 0092    | 00013  | 2309 |
| 0050  | 0023 B  | 32407  |        | 2603 | 14476 | 0135    | 00030  | 1988 |
| 0075  | 0037    | 32750  |        | 2630 | 14491 | 0182    | 00060  | 1733 |
| 0100  | 0089    | 33048  |        | 2651 | 14523 | 0223    | 00096  | 1534 |
| 0125  | 0160 B  | 3336 B |        | 2671 | 14563 | 0259    | 00138  | 1341 |
| 0150  | 0236    | 33660  |        | 2689 | 14605 | 0291    | 00182  | 1174 |
| 0175  | 0300    | 33910  |        | 2704 | 14640 | 0319    | 00229  | 1041 |
| 0200  | 0345    | 3410 B |        | 2715 | 14666 | 0344    | 00277  | 0943 |
| 0225  | 0372    | 3423 B |        | 2723 | 14684 | 0367    | 00326  | 0870 |
| 0250  | 0394    | 3436 B |        | 2731 | 14699 | 0388    | 00378  | 0797 |
| 0300  | 0420    | 3456 C |        | 2744 | 14720 | 0425    | 00482  | 0682 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 385  | WAVES 1 23X6 | AIR T 04.4 | VIS 7 |
| CONS. NO 039 | MONTH 11 | MXSAMPD 03 | WAVES 2 23X6 | WET B      | STN   |
| LAT 48-567N  | DAY 25   | NC.DPTH 13 | WNC-DIR 230  | WW-CODE 02 |       |
| LON 63-053W  | HR 11.4  | W-COLOR    | WND-FCE 05   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 988.0   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 114 | 0000  | 041 B   | 31524 |        | 2504 | 14626 |
| 114 | 0009  | 0389    | 31529 |        | 2506 | 14619 |
| 114 | 0018  | 0390    | 31533 |        | 2507 | 14621 |
| 114 | 0027  | 0388    | 31528 |        | 2506 | 14621 |
| 114 | 0036  | 0389    | 31528 |        | 2506 | 14623 |
| 114 | 0045  | 0388    | 31530 |        | 2507 | 14624 |
| 114 | 0068  | 0107    | 32574 |        | 2612 | 14519 |
| 114 | 0091  | 0088    | 32820 |        | 2632 | 14518 |
| 114 | 0136  | 0162    | 33365 |        | 2671 | 14566 |
| 114 | 0181  | 0310    | 33959 |        | 2707 | 14646 |
| 114 | 0226  | 0380    | 34281 |        | 2726 | 14688 |
| 114 | 0272  | 0414    | 34536 |        | 2742 | 14713 |
| 114 | 0317  | 0421    | 34624 |        | 2749 | 14725 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0410 B  | 31524  |        | 2504 | 14626 | 0000    | 00000  | 2929 |
| 0010  | 0389    | 31530  |        | 2506 | 14619 | 0029    | 00001  | 2906 |
| 0020  | 0390    | 31532  |        | 2507 | 14621 | 0059    | 00006  | 2906 |
| 0030  | 0388    | 31528  |        | 2506 | 14622 | 0088    | 00013  | 2908 |
| 0050  | 0333 I  | 3173 I |        | 2527 | 14604 | 0144    | 00036  | 2710 |
| 0075  | 0085 D  | 3269 I |        | 2622 | 14512 | 0201    | 00071  | 1805 |
| 0100  | 0094    | 32924  |        | 2640 | 14523 | 0244    | 00110  | 1632 |
| 0125  | 0134    | 33226  |        | 2662 | 14549 | 0283    | 00154  | 1427 |
| 0150  | 0208 C  | 3356 D |        | 2684 | 14591 | 0316    | 00201  | 1227 |
| 0175  | 0290 B  | 3389 B |        | 2703 | 14636 | 0345    | 00249  | 1051 |
| 0200  | 0347    | 3412 C |        | 2716 | 14667 | 0370    | 00296  | 0931 |
| 0225  | 0379    | 34276  |        | 2725 | 14687 | 0392    | 00345  | 0845 |
| 0250  | 0402    | 3443 B |        | 2735 | 14703 | 0413    | 00394  | 0756 |
| 0300  | 0423    | 3460 B |        | 2746 | 14722 | 0448    | 00494  | 0656 |

|              |          |         |     |              |            |       |
|--------------|----------|---------|-----|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 385 | WAVES 1 23X3 | AIR T 05.5 | VIS 7 |
| CONS. NO 040 | MONTH 11 | MXSAMPD | 03  | WAVES 2 23X4 | WET B      | STN   |
| LAT 48-430N  | DAY 25   | NO.DPTH | 13  | WND-DIR 230  | WW-CODE 01 |       |
| LON 62-190W  | HR 15.1  | W-COLOR |     | WND-FCE 05   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP |     | BARO 1001.0  | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 151 | 0000  | 038 B   | 31596 |        | 2512 | 14614 |
| 151 | 0009  | 0364    | 31544 |        | 2510 | 14608 |
| 151 | 0017  | 0363    | 31547 |        | 2510 | 14609 |
| 151 | 0026  | 0362    | 31545 |        | 2510 | 14610 |
| 151 | 0034  | 0362    | 31545 |        | 2510 | 14611 |
| 151 | 0043  | 0361    | 31550 |        | 2511 | 14613 |
| 151 | 0064  | 0032    | 32225 |        | 2588 | 14480 |
| 151 | 0086  | -0006   | 32519 |        | 2613 | 14470 |
| 151 | 0128  | 0222    | 33606 |        | 2686 | 14594 |
| 151 | 0171  | 0328    | 34040 |        | 2712 | 14653 |
| 151 | 0214  | 0386    | 34337 |        | 2730 | 14689 |
| 151 | 0257  | 0411    | 34501 |        | 2740 | 14709 |
| 151 | 0300  | 0418    | 34584 |        | 2746 | 14720 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | CXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0380 B  | 31596  |        | 2512 | 14614 | 0000    | 00000  | 2848 |
| 0010  | 0364    | 31543  |        | 2510 | 14608 | 0029    | 00001  | 2874 |
| 0020  | 0363    | 31547  |        | 2510 | 14609 | 0058    | 00006  | 2871 |
| 0030  | 0362    | 31545  |        | 2510 | 14611 | 0087    | 00013  | 2872 |
| 0050  | 0261 I  | 3175 I |        | 2535 | 14573 | 0142    | 00036  | 2639 |
| 0075  | -0013 D | 3239 I |        | 2603 | 14463 | 0200    | 00072  | 1987 |
| 0100  | 0055 I  | 3288 I |        | 2639 | 14505 | 0246    | 00113  | 1643 |
| 0125  | 0201 C  | 3353 E |        | 2681 | 14584 | 0282    | 00154  | 1246 |
| 0150  | 0287 B  | 3388 H |        | 2702 | 14630 | 0311    | 00194  | 1052 |
| 0175  | 0335    | 34073  |        | 2714 | 14657 | 0336    | 00236  | 0951 |
| 0200  | 0372    | 34255  |        | 2724 | 14679 | 0359    | 00280  | 0851 |
| 0225  | 0395    | 34389  |        | 2733 | 14695 | 0380    | 00325  | 0776 |
| 0250  | 0409    | 34482  |        | 2739 | 14706 | 0399    | 00371  | 0724 |
| 0300  | 0418    | 34584  |        | 2746 | 14720 | 0434    | 00469  | 0662 |

|              |          |         |    |              |            |       |
|--------------|----------|---------|----|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 53 | WAVES 1 23X3 | AIR T 05.5 | VIS 7 |
| CONS. NO 041 | MONTH 11 | MXSAMPD | 00 | WAVES 2 23X3 | WET B      | STN   |
| LAT 48-200N  | DAY 25   | NO.DPTH | 6  | WND-DIR 230  | WW-CODE 02 |       |
| LON 63-100W  | HR 20.5  | W-COLOR |    | WNC-FCE 03   | CLO-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP |    | BARO 999.0   | CLO-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 205 | 0000  | 032 B   | 30221 |        | 2409 | 14570 |
| 205 | 0010  | 0306    | 30201 |        | 2408 | 14565 |
| 205 | 0020  | 0306    | 30199 |        | 2408 | 14567 |
| 205 | 0030  | 0310    | 30321 |        | 2417 | 14572 |
| 205 | 0040  | 0346    | 31198 |        | 2484 | 14601 |
| 205 | 0050  | 0331    | 31262 |        | 2490 | 14597 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0320 B  | 30221 |        | 2409 | 14570 | 0000    | 00000  | 3838 |
| 0010  | 0306    | 30201 |        | 2408 | 14565 | 0039    | 00002  | 3842 |
| 0020  | 0306    | 30199 |        | 2408 | 14567 | 0077    | 00008  | 3844 |
| 0030  | 0310    | 30321 |        | 2417 | 14572 | 0115    | 00018  | 3755 |
| 0050  | 0331    | 31262 |        | 2490 | 14597 | 0184    | 00045  | 3060 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 72   | WAVES 1 13X2 | AIR T 05.5 | VIS 6 |
| CONS. NO 042 | MONTH 11 | MXSAMPD 01 | WAVES 2 13X1 | WET B      | STN   |
| LAT 47-500N  | DAY 25   | NO.DPTH 7  | WNC-DIR 130  | WW-CODE 60 |       |
| LON 62-500W  | HR 23.9  | W-COLOR    | WND-FCE 02   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 993.0   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 239 | 0000  | 037 B   | 30495 |        | 2426 | 14595 |
| 239 | 0010  | 0354    | 30474 |        | 2426 | 14590 |
| 239 | 0020  | 0351    | 30515 |        | 2429 | 14591 |
| 239 | 0030  | 0351    | 30528 |        | 2430 | 14592 |
| 239 | 0040  | 0324    | 30755 |        | 2451 | 14585 |
| 239 | 0050  | -0003   | 32056 |        | 2576 | 14459 |
| 239 | 0060  | -0006   | 32083 |        | 2578 | 14460 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0370 B  | 30495 |        | 2426 | 14595 | 0000    | 00000  | 3671 |
| 0010  | 0354    | 30474 |        | 2426 | 14590 | 0037    | 00002  | 3674 |
| 0020  | 0351    | 30515 |        | 2429 | 14591 | 0074    | 00008  | 3640 |
| 0030  | 0351    | 30528 |        | 2430 | 14592 | 0110    | 00017  | 3631 |
| 0050  | -0003   | 32056 |        | 2576 | 14459 | 0169    | 00040  | 2245 |



|              |          |         |    |              |            |       |
|--------------|----------|---------|----|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH   | 59 | WAVES 1 02X3 | AIR T 03.3 | VIS 3 |
| CONS. NO 043 | MONTH 11 | MXSAMPD | 00 | WAVES 2 02X3 | WET B      | STN   |
| LAT 47-100N  | DAY 26   | NO.DPTH | 6  | WNC-DIR 020  | WW-CODE 85 |       |
| LON 63-100W  | HR 03.3  | W-COLOR |    | WNC-FCE 04   | CLD-TPE    |       |
| MARSC SQ 151 | C/I 1810 | W-TRNSP |    | BARO 989.0   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 033 | 0000  | 041 B   | 29998 |        | 2383 | 14606 |
| 033 | 0010  | 0415    | 30017 |        | 2384 | 14610 |
| 033 | 0020  | 0419    | 30033 |        | 2385 | 14613 |
| 033 | 0030  | 0419    | 30035 |        | 2385 | 14615 |
| 033 | 0039  | 0421    | 30042 |        | 2385 | 14617 |
| 033 | 0049  | 0379    | 30617 |        | 2435 | 14609 |

+TIME-DISTANCE CHECK FAILED

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0410 B  | 29998  |        | 2383 | 14606 | 0000    | 00000  | 4081 |
| 0010  | 0415    | 30017  |        | 2384 | 14610 | 0041    | 00002  | 4072 |
| 0020  | 0419    | 30033  |        | 2385 | 14613 | 0082    | 00008  | 4064 |
| 0030  | 0419    | 30035  |        | 2385 | 14615 | 0123    | 00019  | 4062 |
| 0050  | 0374    | 3068 C |        | 2441 | 14608 | 0199    | 00050  | 3535 |

|              |          |            |              |            |       |
|--------------|----------|------------|--------------|------------|-------|
| C-REF-NO 008 | YR 1967  | DEPTH 72   | WAVES 1 31X4 | AIR T 02.7 | VIS 3 |
| CONS. NO 044 | MONTH 11 | MXSAMPD 01 | WAVES 2 31X4 | WET B      | STN   |
| LAT 46-450N  | DAY 26   | NO.DPTH 7  | WND-DIR 310  | WW-CODE 86 |       |
| LON 62-000W  | HR 08.7  | W-COLOR    | WND-FCE 05   | CLD-TPE    |       |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 995.0   | CLD-AMT    | HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 087 | 0000  | 045 B   | 30401 |        | 2411 | 14628 |
| 087 | 0010  | 0444    | 30387 |        | 2411 | 14627 |
| 087 | 0019  | 0439    | 30425 |        | 2414 | 14627 |
| 087 | 0029  | 0413    | 30605 |        | 2431 | 14620 |
| 087 | 0038  | 0408    | 30688 |        | 2438 | 14620 |
| 087 | 0048  | 0128    | 31580 |        | 2531 | 14512 |
| 087 | 0058  | 0043    | 31902 |        | 2561 | 14479 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0450 B  | 30401  |        | 2411 | 14628 | 0000    | 00000  | 3814 |
| 0010  | 0444    | 30387  |        | 2411 | 14627 | 0038    | 00002  | 3819 |
| 0020  | 0436    | 3044 B |        | 2416 | 14626 | 0076    | 00008  | 3771 |
| 0030  | 0418 B  | 3060 D |        | 2430 | 14622 | 0114    | 00017  | 3635 |
| 0050  | 0177 I  | 3145 I |        | 2517 | 14532 | 0178    | 00043  | 2803 |

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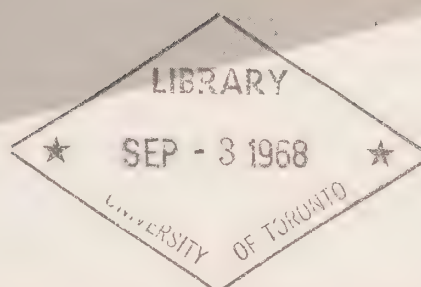
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| 2   | Ocean Weather Station "P"                                    | 02-67-001<br>02-67-002 |







CANADA



# HUDSON BAY, HUDSON STRAIT and ARCTIC

July 21 to September 9, 1967

**No. 4**

1968 Data Record Series

## Canadian Oceanographic Data Centre

Programmed by the  
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# **HUDSON BAY, HUDSON STRAIT and ARCTIC**

**July 21 to September 9, 1967**

**CODC References: 07-67-001  
02-67-013**

**No. 4**

**1968 Data Record Series**

**Canadian Oceanographic Data Centre  
615 Booth St., Ottawa, Canada**

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DEPARTMENT OF ENERGY, MINES AND RESOURCES

HUDSON BAY, HUDSON STRAIT and ARCTIC

HUDSON BAY and HUDSON STRAIT

ARCTIC

|                            |                         |                       |
|----------------------------|-------------------------|-----------------------|
| Ship:                      | CCGS "Labrador"         | CCGS "Labrador "      |
| Local cruise designations: | -                       | ICE PACK 8/67         |
| Cruise periods :           | July 21 - July 30, 1967 | Aug 17 - Sept 9, 1967 |
| Observers:                 | Ship's staff            | R.H. Herlinveaux      |

MARINE SCIENCES BRANCH, Ottawa

PACIFIC OCEANOGRAPHIC GROUP, Nanaimo



## SECTION I

Description of data collection procedures



CCGS LABRADOR



Dept. of Transport







Figure 1

The approximate position of the thirty-two bathythermograms obtained by CCGS "Labrador" during the period July 21-30, 1967. The numbers are consecutive slide numbers and provide the entry into the detailed BT data of Table 1.

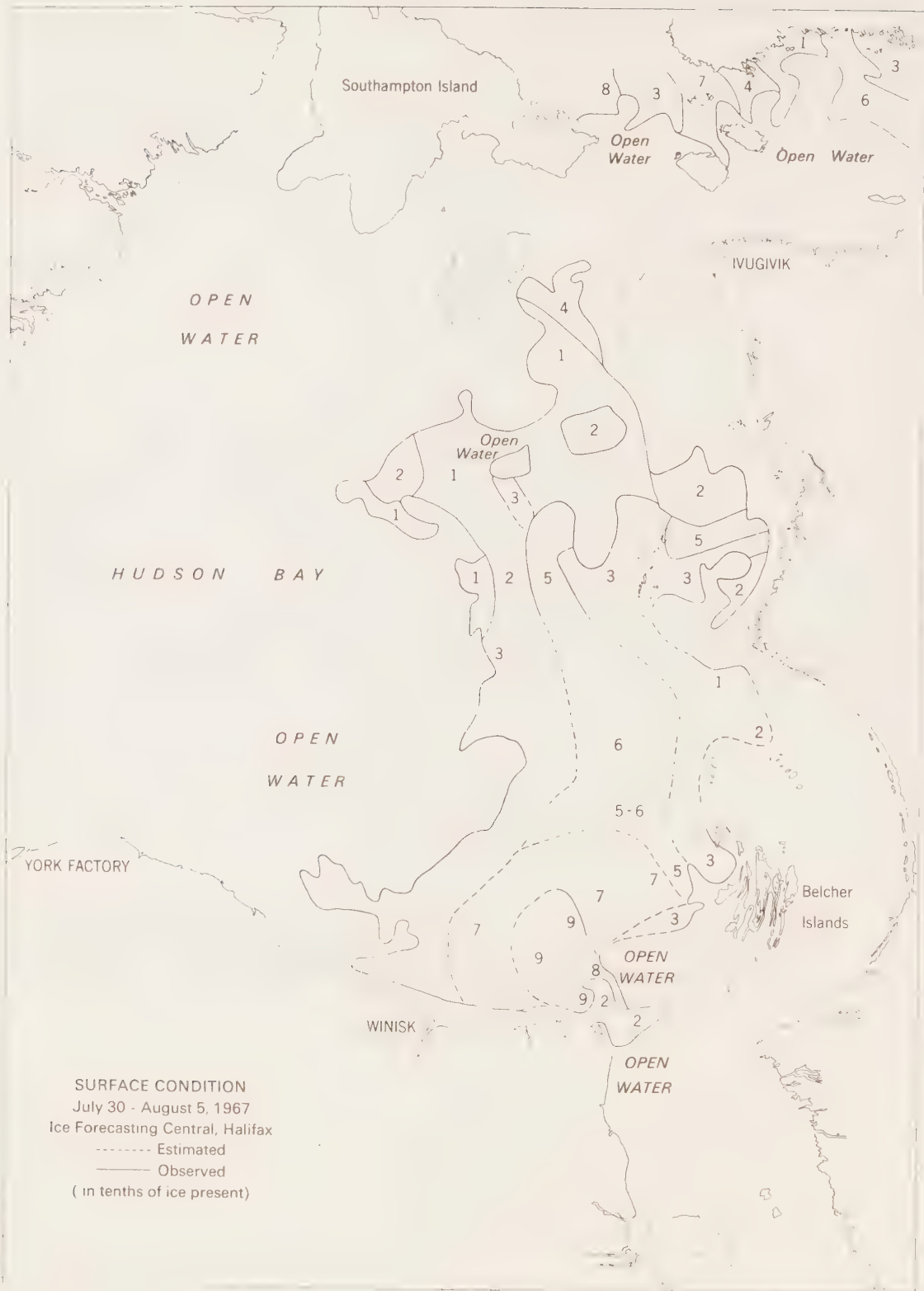


Figure 2

The distribution of ice in Hudson Bay close to the end of July 1967 based on information provided by the Dept. of Transport, Ice Forecasting Central, Halifax.

## INTRODUCTION

During the navigation season of 1967 two groups of oceanographic data were obtained in northern waters in the CCGS "Labrador" (frontispiece). One, a series of bathythermograph lowerings in Hudson Bay and Hudson Strait, was carried out at the request of the Marine Sciences Branch of the Department of Energy, Mines and Resources. The other comprised a variety of oceanographic observations relative to a programme being carried out by personnel from the Defence Research Establishment Pacific at Esquimalt and from the Pacific Oceanographic Group at Nanaimo. The local reference for the latter programme is ICE PACK 8/67.

### HUDSON BAY and HUDSON STRAIT

Toward the latter part of July a number of lowerings of a deep (275m) bathythermograph were made by CCGS "Labrador" while on patrol in Hudson Strait and Hudson Bay (Fig. 1). The data are reproduced here in Section IV in the form of bathythermograms which were made from copies of aperture card (Sauer, 1964) prints. The consecutive slide number is indicated on each and relates each to the detailed information of Table 1 and to the approximate position of Fig. 1. In order to improve the reproduction of the trace on each print it was outlined with white ink just prior to photostating.

The location of the two sections in Hudson Strait was determined by earlier reported deep bathythermograph observations. In 1959 stations in the section Big Island to Wales Island were occupied on a number of occasions in MV "Theta" (Anon., 1960) and in 1962 stations were occupied in this section and in that just eastward of Salisbury Island in CCGS "John A. Macdonald" (Anon., 1966). The programme in Hudson Strait and Hudson Bay was undertaken by the Canadian Coast Guard on relatively short notice and was carried out by the staff of the vessel; the equipment was provided by the Atlantic Oceanographic Laboratory (BIO). The programme was prompted through study of satellite imagery\* and of ice forecasts (Anon., 1967) which indicated the likely persistence of an ice cover along the eastern side of Hudson Bay. The distribution of ice about the time of the observations of "Labrador" is shown in Fig. 2.

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\* The Satellite Data Laboratory of the Meteorological Branch has been providing reproductions of data received from the satellite ESSA 2 via APT.

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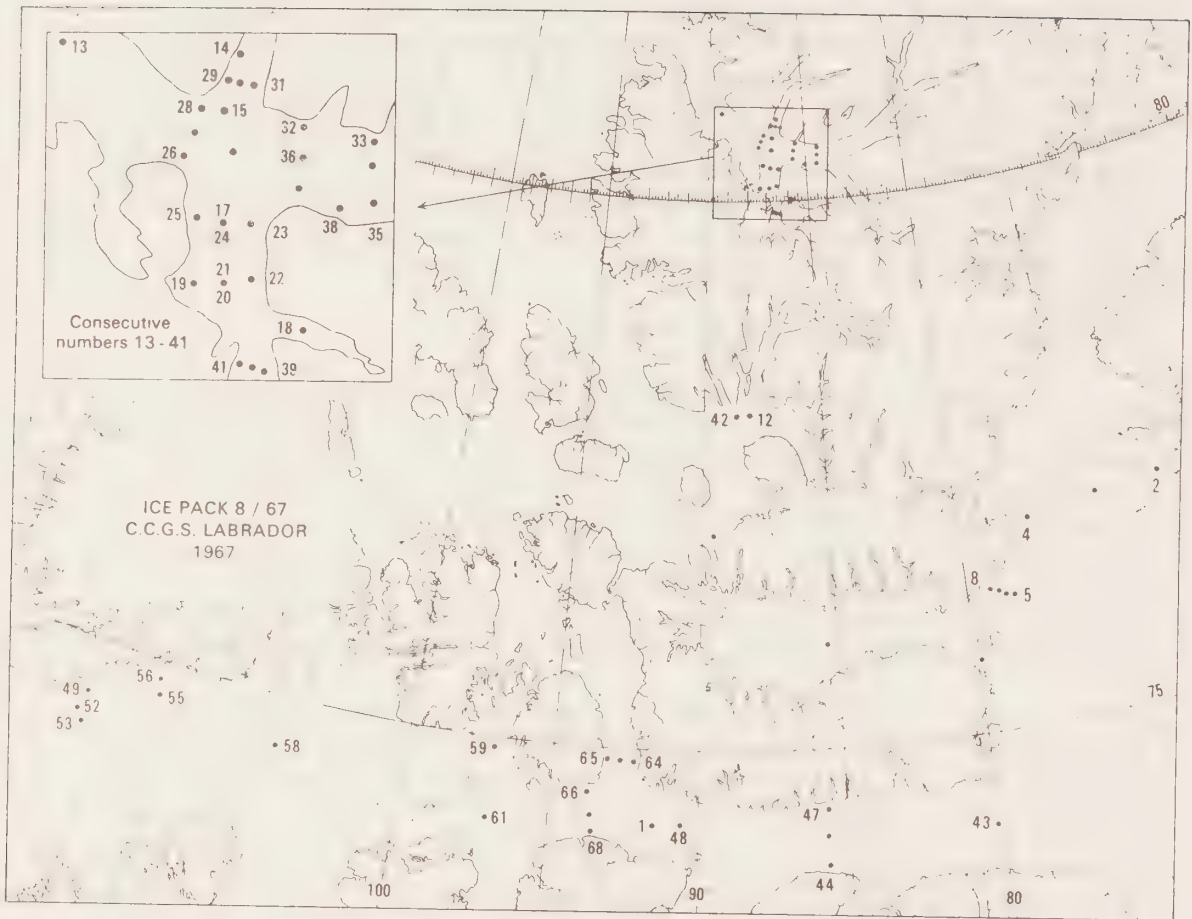


Figure 3

The approximate position of the stations occupied within the archipelago in CCGS "Labrador" during the period August 17 to September 9, 1967.



Surface temperature distributions in 1967 in Hudson Bay from airborne radiation measurements have been described by Wendland and Bryson (1967).

#### ARCTIC (ICE PACK 8/67)

During the period August 17 to September 9 CCGS "Labrador" occupied stations in the Arctic Archipelago at the approximate positions shown in Figure 3. Each station comprised a sampling for serial temperature and salinity data. These were obtained using either reversing bottles and thermometers or with an "in situ" inductive salinometer from which both the temperature and salinity were obtained. The method of sampling used is indicated in Table 2 where the general extent of the data is also indicated as is the relation of consec number and consec slide number.

Each reversing bottle station comprised a single cast followed generally by a lowering of a bathythermograph and occasionally by a lowering of a large gravity corer. At eight of these stations the "in situ" salinometer was lowered for comparison data. After the auxiliary thermometers had reached equilibrium the temperatures were read, recorded, read back again and checked. Samples for salinity determination were drawn into flat 8 oz glass medicine bottles with hard plastic caps fitted with polythylene inserts. These were stored on board and subsequently analysed at the Atlantic Oceanographic Laboratory with a salinometer of the type described by Brown and Hamon (1961). At six stations a number (78) of water samples were drawn into 8 oz bottles and subsequently forwarded to Dr. A.C. Redfield.

A total of 30 sediment cores were obtained at 20 stations and later forwarded to Dr. B.R. Pelletier at the Atlantic Oceanographic Laboratory.

An evaluation of the data obtained at the eight comparison stations indicated that the "in situ" temperatures were colder by an average of  $0.04^{\circ}\text{C}$  (standard deviation  $0.14^{\circ}\text{C}$ ) and the "in situ" salinities were saltier by an average of  $0.13\text{‰}$  (standard deviation  $0.11\text{‰}$ ). The comparison data obtained with the "in situ" unit are shown in this data record but the tabulated values have not been adjusted to reflect the result of the evaluation.

The 19 bathythermograms obtained during this portion of the CCGS "Labrador" survey are presented here in Section V. The material was prepared from hand-drawn reproductions of the slides; the number below each relates each to the consec number of Table 2.



## SECTION II

Description of the machine-generated data record



## INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch-cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. When interpolations are carried out, additional derived values are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an **"estimate of precision"** for each observed variable selected for interpolation at standard oceanographic depths. The precision depends on the instrument and/or technique used to determine the variable. A standard precision stated as a **standard deviation** ( $\sigma$ ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under **"GENERAL INFORMATION"** in section III of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e.,  $1\sigma = A$ ,  $2\sigma = B$ , etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an **"interpolation error estimate"** derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of the interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable ( $T$ ,  $S$ ,  $O_2$ ) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the **"measurement error estimate"** comprises the **"combined measurement and interpolation error estimate"**. It is expressed as a multiple of the standard deviation of measurement ( $\sigma$ ) under normal routine field conditions by:



# CANADIAN OCEANOGRAPHIC DATA CENTRE

|  |  |   |  |   |  |   |  |   |  |   |  |   |  |   |  |   |  |
|--|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|
| 1 IDENT. CODE  |  | 2 LATITUDE (N=+)  |  | 3 LONGITUDE (W=+)   |  | 5 DATE  |  | 6 TIME  |  | 7 DEPTH   |  | 9 NO. DEPTHS OBS'D.   |  | VESSEL  |  |   |  |
| COUNTRY INST.  |  | DEG. MIN.   |  | DEG. MIN.   |  | YEAR MONTH DAY  |  | HOURS G.M.T.  |  | TO BOTTOM   |  |   |  | ENTERED BY  |  |   |  |
| 1 8  |  |   |  |   |  |   |  |   |  |   |  |   |  | CALCULATED BY   |  |   |  |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15  |  | 19 20 21 22 23 24 25 26 27 28 29 30 31  |  | 34 35   |  |   |  |   |  |   |  |   |  |   |  |   |  |
| 13 WATER   |  | 11 WAVES  |  | 12 WAVES  |  | 13 WIND   |  | 14 SALINITY   |  | 15 AIR TEMP   |  | 16 SURF TEMP  |  | 17 W. W. CODE   |  |   |  |
| COLOUR FRAME   |  | ON DR FATHOM  |  | ON DR FATHOM  |  | ON DR FATHOM  |  | ON DR FATHOM  |  | ON DR FATHOM  |  | ON DR FATHOM  |  | ON DR FATHOM  |  |   |  |
| 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  |

## OBSERVED CARD

|              |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
|--------------|--|-------------------|--|---------------|--|------------|--|-----------|--|------------------------|--|--------------|--|------------------------|--|------------------------|--|--------------------------|--|---------|--|
| 6 TIME       |  | 7 DEPTH OF SAMPLE |  | 8 TEMPERATURE |  | 9 SALINITY |  | 10 OXYGEN |  | 13 PO <sub>4</sub> - P |  | 14 TOTAL - P |  | 15 NO <sub>2</sub> - N |  | 16 NO <sub>3</sub> - N |  | 17 SiO <sub>2</sub> - Si |  | 18 P.H. |  |
| HOURS G.M.T. |  | e                 |  | e             |  | d/e        |  | e         |  | e                      |  | e            |  | e                      |  | e                      |  | e                        |  | e       |  |
| 1            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 2            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 3            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 4            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 5            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 6            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 7            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 8            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 9            |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 10           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 11           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 12           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 13           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 14           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 15           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 16           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 17           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 18           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 19           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 20           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 21           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 22           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 23           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 24           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 25           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 26           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 27           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 28           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 29           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 30           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 31           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 32           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 33           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 34           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 35           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 36           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 37           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 38           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 39           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 40           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 41           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 42           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 43           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 44           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 45           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 46           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 47           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 48           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 49           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 50           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 51           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 52           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 53           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 54           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 55           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 56           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 57           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 58           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 59           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 60           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 61           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 62           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 63           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 64           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 65           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 66           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 67           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 68           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 69           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 70           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 71           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 72           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 73           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 74           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 75           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 76           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 77           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 78           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 79           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |
| 80           |  |                   |  |               |  |            |  |           |  |                        |  |              |  |                        |  |                        |  |                          |  |         |  |

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left( \frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

$\sigma$  = Standard deviation of the combined error estimates at standard oceanographic depth,

$\Delta V_i$  = the interpolation error estimate of variable "V" at standard oceanographic depth =  $1/3 (V_{i_1} - V_{i_2})$

$\gamma$  = Interpolation polynomial coefficient.

$Z_j$  = Observed depth.

$Z_i$  = Standard oceanographic depth, such that:  $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction  $\frac{\sigma_i}{\sigma}$ , if  $\geq 2$ , is reported in this Data Record following the interpolated variable. It represents the combined measurement and interpolation error estimate. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the interpolation error estimate is given only when  $\frac{\sigma_i}{\sigma} \geq 2$  (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

## EXPLANATION OF DATA RECORD HEADINGS

## MASTER HEADINGS

|              |           |               |              |              |          |
|--------------|-----------|---------------|--------------|--------------|----------|
| (1) C-REF-NO | (6) YR    | (11) DEPTH    | (16) WAVES 1 | (21) AIR T   | (26) VIS |
| (2) CONS. NO | (7) MONTH | (12) MXSAMPD  | (17) WAVES 2 | (22) WET B   | (27) STN |
| (3) LAT      | (8) DAY   | (13) NO. DPTH | (18) WND-DIR | (23) ww-CODE |          |
| (4) LON      | (9) HR    | (14) W-COLOR  | (19) WND-FCE | (24) CLD-TPE |          |
| (5) MARSD SQ | (10) C/I  | (15) W-TRNSP  | (20) BARO    | (25) CLD-AMT | (28) HW  |

- (1) CRUISE REFERENCE NUMBER: Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the CRN was a number designated by CODC.
- (2) CONSECUTIVE NUMBER: Indicates the chronological order in which the stations were occupied.
- (3) LATITUDE: Indicate the position of the platform at the time of observation.
- (4) LONGITUDE:
- (5) MARSDEN SQUARE: Designates the geographic area code of the observation (see Marsden square chart).
- (6) YEAR:
- (7) MONTH:
- (8) DAY:
- (9) HOUR: The time (Greenwich Mean Time) at which the surface environmental data were recorded. It is reported to tenths of hours (Table 1).  
If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.
- (10) COUNTRY/INSTITUTE: The International Geophysical Year (IGY) Country Code/Institute Code - see Table 11.
- (11) DEPTH: The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section III. Charted depths are preceded by the letter "C".
- (12) MAXIMUM SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).  
00 m - 50 m = 00  
51 m - 150 m = 01  
151 m - 250 m = 02  
etc.

- (13) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch-cards).
- (14) WATER COLOUR: A code based on the percentage of yellow (see table 2 and Note under FIELD "15" below).
- (15) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section III of the data record will state which method was used.
- (16) WAVES 1  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the **wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (17) WAVES 2  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the predominant **non-wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (18) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing (wind direction 990 means:—wind variable or direction unknown).
- (19) WIND FORCE  
(WND-FCE): Beaufort notation (See Table 6).
- WIND SPEED  
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section III.
- (20) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section III of the data record will state the type of instrument used.
- (21) AIR TEMPERATURE: In degrees Celsius.
- (22) WET BULB: In degrees Celsius.
- (23) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (24) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (25) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (26) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (27) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (28) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.



## OBSERVED DATA HEADINGS

|           |            |          |             |             |              |
|-----------|------------|----------|-------------|-------------|--------------|
| (1) GMT   | (2) DEPTH  | (3) TEMP | (4) SAL     | (5) OXYGEN  | (6) SGMT     |
| (7) SOUND | (8) $PO_4$ | (9) -P-  | (10) $NO_2$ | (11) $NO_3$ | (12) $SiO_2$ |
|           |            |          |             | (13) pH.    |              |

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

- (1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.
- When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.
- (2) DEPTH: The depth in metres at the reversal time of deepest cast.
- (3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of section III. An alphabetical character following the temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.
- (4) SALINITY: Salinity as defined by:  $S = 0.03 + 1.805 C1\%$ , reported in:
- 1/100 parts per 1000, or
  - 1/1000 parts per 1000.
- In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3).
- In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.
- (5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).
- (6) SIGMA-T: The specific gravity anomaly as defined by:  $(\text{Specific gravity} - 1) \times 10^3$  (e.g.,  $\sigma_t$  reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).
- (7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.



|                       |   |
|-----------------------|---|
| (8) PO <sub>4</sub>   | Phosphate-Phosphorus reported to hundredths of microgram-atoms per litre.                               |
| (9) -P-               | Total Phosphorus reported to hundredths of microgram-atoms per litre.                                   |
| (10) NO <sub>2</sub>  | Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre – No dissolved nitrogen included – |
| (11) NO <sub>3</sub>  | Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.                                       |
| (12) SiO <sub>2</sub> | Silicate-Silicon reported in whole microgram-atoms per litre.   |
| (13) pH               | The pH value.   |

NOTE: "TRC" (trace) is reported when a chemical entry has a value less than the standard deviation of measurement for that particular variable.

#### INTERPOLATED DATA HEADINGS

|             |            |          |            |          |           |
|-------------|------------|----------|------------|----------|-----------|
| (1) DEPTH   | (2) TEMP   | (3) SAL  | (4) OXYGEN | (5) SGMT | (6) SOUND |
| (7) DELTA-D | (8) POT-EN | (9) SVA. |            |          |           |

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY:
- A. The reported salinity values are measured to three decimal places.
    - (i) the interpolation error estimate is less than twice the standard deviation of measurement
      - the interpolated value is reported to three decimal places (e.g., 30.139).
    - (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
      - the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23 C).
  - B. The reported salinity values are measured to two decimal places and followed by the measurement error estimate.
    - the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59 B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

(5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.

(6) SOUND VELOCITY: Computed from temperature, salinity and total pressure values at standard oceanographic depth, using Wilson's formula (1960).

(7) DELTA-D: The geo-potential anomaly as defined by:

$$\Delta D = \int_0^p \delta dp$$

$\Delta D$  is expressed in dynamic metres ( $10^5$  ergs/gram) and recorded to three decimal places (e.g., 2.345 dyn. metres).

(8) POTENTIAL ENERGY ANOMALY:

The Potential energy anomaly  $\chi$  as defined by:

$$\chi = 1/g \int_0^p p \delta dp = \int_0^z \rho p \delta dz$$

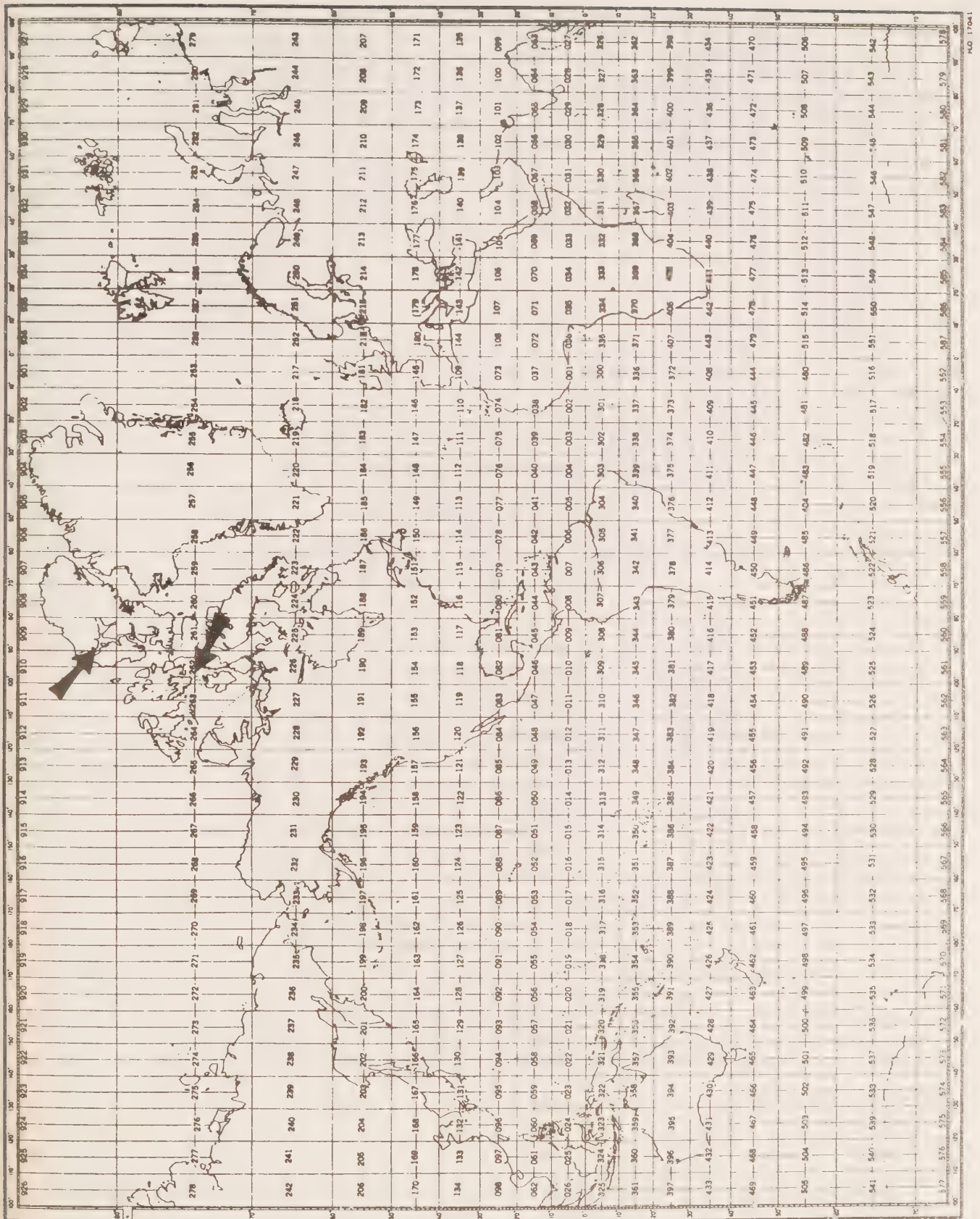
$\chi$  is expressed in units of  $10^6$  ergs/cm<sup>2</sup> and recorded to two decimal places (e.g., 116.44).

(9) SPECIFIC VOLUME ANOMALY:

The specific volume anomaly as defined by:

$$\delta = \alpha - \alpha_{35.0.P}$$

$\delta$  is expressed in ml/gr, and conventionally reported as  $10^5 \delta$ , to one decimal place (i.e.,  $\delta$  reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).



MARS DEN SQUARE CHART

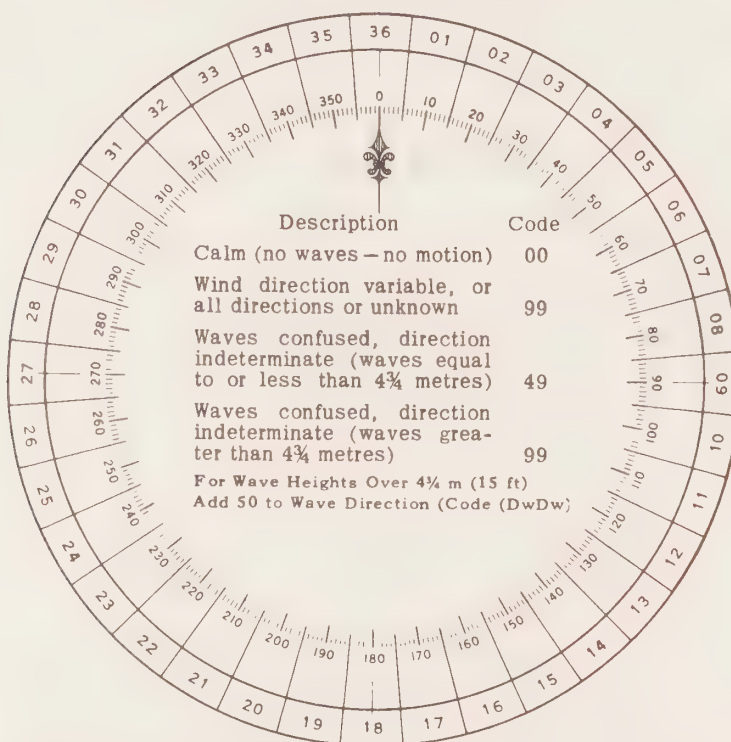
**Table 1**  
**CONVERSION**  
**MINUTES TO  $\frac{1}{10}$  HRS.**

| Minutes | Tenths Hrs.  |
|---------|--------------|
| 00-03   | 0            |
| 04-08   | 1            |
| 09-15   | 2            |
| 16-20   | 3            |
| 21-27   | 4            |
| 28-32   | 5            |
| 33-39   | 6            |
| 40-44   | 7            |
| 45-51   | 8            |
| 52-56   | 9            |
| 57-59   | 0 (next HR.) |

**Table 2**  
**WATER COLOR CODE**  
**Based on Percentage Yellow**

| Code: | Description     |
|-------|-----------------|
| 00    | Deep Blue       |
| 10    | Blue            |
| 20    | Greenish Blue   |
| 30    | Bluish Green    |
| 40    | Green           |
| 50    | Light Green     |
| 60    | Yellowish Green |
| 70    | Yellow Green    |
| 80    | Green Yellow    |
| 90    | Greenish Yellow |
| 99    | Yellow          |

**Table 3. DIRECTION CODE (dd)**



**NOTE:**

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.



**Table 4. PERIOD OF THE WAVES (Pw)**  
(Measure to the Nearest Second)

| Code: | Period in Seconds: | Code: | Period in Seconds:             |
|-------|--------------------|-------|--------------------------------|
| 2     | 5 sec. or less     | 8     | 16 or 17 sec.                  |
| 3     | 6 or 7 sec.        | 9     | 18 or 19 sec.                  |
| 4     | 8 or 9 sec.        | 0     | 20 or 21 sec.                  |
| 5     | 10 or 11 sec.      | 1     | Over 21 sec.                   |
| 6     | 12 or 13 sec.      | X     | Calm, or period not determined |
| 7     | 14 or 15 sec.      |       |                                |

**Table 5. HEIGHT OF THE WAVES (Hw)**

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft); 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft); 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of  $2\frac{1}{4}$  m is reported by code figure 5.

| Code |                       |                          | Code                    |
|------|-----------------------|--------------------------|-------------------------|
| 0    | Less than ¼ m (1 ft)  | Add<br>50<br>to<br>Dw Dw | 0 5 m (16 ft)           |
| 1    | ½ m ( 1½ ft)          |                          | 1 5½ m (17½ ft)         |
| 2    | 1 m ( 3 ft)           |                          | 2 6 m (19 ft)           |
| 3    | 1½ m ( 5 ft)          |                          | 3 6½ m (21 ft)          |
| 4    | 2 m ( 6½ ft)          |                          | 4 7 m (22½ ft)          |
| 5    | 2½ m ( 8 ft)          |                          | 5 7½ m (24 ft)          |
| 6    | 3 m ( 9½ ft)          |                          | 6 8 m (25½ ft)          |
| 7    | 3½ m (11 ft)          |                          | 7 8½ m (27 ft)          |
| 8    | 4 m (13 ft)           |                          | 8 9 m (29 ft)           |
| 9    | 4½ m (14 ft)          |                          | 9 9½ m (30½ ft) or more |
| x    | Height not determined |                          |                         |



**Table 6. WIND FORCE CODE**

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

| Code | Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully   | Description     |
|------|---|-----------------|
| 00   | Sea like a mirror   | Calm            |
| 01   | Ripples with the appearance of scales are formed, but without foam crests.  | Light Air       |
| 02   | Small wavelets; crests have a glassy appearance and do not break.   | Light Breeze    |
| 03   | Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.   | Gentle Breeze   |
| 04   | Small waves, becoming longer; fairly frequent white horses.   | Moderate breeze |
| 05   | Moderate waves; many white horses are formed (chance of some spray)   | Fresh Breeze    |
| 06   | Large waves; white foam crests everywhere (probably some spray)   | Strong Breeze   |
| 07   | Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.  | Near Gale       |
| 08   | Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.   | Gale            |
| 09   | High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.  | Strong Gale     |
| 10   | Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.          | Storm           |
| 11   | Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected. | Violent Storm   |
| 12   | Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.  | Hurricane       |

**Table 7. PRESENT WEATHER**  
W.W. CODE

**NO PRECIPITATION ON STATION AT TIME OF OBSERVATION**

| Code figure<br>ww                   |    |   |   |   |
|-------------------------------------|----|---|---|---|
| No meteors<br>except<br>photometers | 00 | Cloud development not observed or not observable  | characteristic<br>change of the<br>state of sky<br>during the<br>past hour  |   |
|                                     | 01 | Clouds generally dissolving or becoming less developed  |   |   |
|                                     | 02 | State of sky on the whole unchanged   |   |   |
|                                     | 03 | Clouds generally forming or developing  |   |   |
| Haze, dust, sand or smoke           | 04 | Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes   |   |   |
|                                     | 05 | Haze  |   |   |
|                                     | 06 | Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation  |   |   |
|                                     | 07 | Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen |   |   |
|                                     | 08 | Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm          |   |   |
|                                     | 09 | Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour   |   |   |
|                                     | 10 | Mist  |   |   |
|                                     | 11 | Patches of  | shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 metres on land or 10 metres at sea                     |   |
|                                     | 12 |   |   | More of less continuous   |
|                                     |    | 13  | Lightning visible, no thunder heard   |   |
|                                     |    | 14  | Precipitation within sight, not reaching the ground or the surface of the sea   |   |
|                                     |    | 15  | Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station |   |
|                                     |    | 16  | Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station                                    |   |
|                                     |    | 17  | Thunderstorm, but no precepitation at the time of observation   |   |
|                                     |    | 18  | Squalls   | } at or within sight of the station during the preceding hour or at the time of observation |
|                                     |    | 19  | Funnel clouds   |   |

|              |   |   |
|--------------|---|---|
| ww = 20 - 29 | Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation   |   |
| 20           | Drizzle (not freezing) or snow grains   | } not falling as shower(s)                                  |
| 21           | Rain (not freezing)   |   |
| 22           | Snow  |   |
| 23           | Rain and snow or ice pellets, type (a)  |   |
| 24           | Freezing drizzle or freezing rain   |   |
| 25           | Shower(s) of rain   |   |
| 26           | Shower(s) of snow, or of rain and snow  |   |
| 27           | Shower(s) of hail, or of rain and hail  |   |
| 28           | Fog or ice fog  |   |
| 29           | Thunderstorm (with or without precipitation)  |   |
| ww = 30 - 39 | Duststorm, sandstorm, drifting or blowing snow  |   |
| 30           |   | - has decreased during the preceding hour                   |
| 31           | } Slight or moderate duststorm or sandstorm   | - no appreciable change during the preceding hour           |
| 32           |   | - has begun or has increased during the preceding hour      |
| 33           | } Severe duststorm or sandstorm   | - has decreased during the preceding hour                   |
| 34           |   | - no appreciable change during the preceding hour           |
| 35           |   | - has begun or has increased during the preceding hour      |
| 36           | Slight or moderate blowing snow   | } generally low (below eye level)                           |
| 37           | Heavy drifting snow   |   |
| 38           | Slight or moderate blowing snow   | } generally high (above eye level)                          |
| 39           | Heavy blowing snow  |   |
| ww = 40 - 49 | Fog or ice fog at the time of observation   |   |
| 40           | Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer |   |
| 41           | Fog or ice fog in patches   |   |
| 42           | Fog or ice fog, sky visible   | } has become thinner during the preceding hour              |
| 43           | Fog or ice fog, sky invisible   |   |
| 44           | Fog or ice fog, sky visible   | } no appreciable change during the preceding hour           |
| 45           | Fog or ice fog, sky invisible   |   |
| 46           | Fog or ice fog, sky visible   | } has begun or has become thicker during the preceding hour |
| 47           | Fog or ice fog, sky invisible   |   |
| 48           | Fog, depositing rime, sky visible   |   |
| 49           | Fog, depositing rime, sky invisible   |   |

**NO PRECIPITATION ON STATION AT TIME OF OBSERVATION**

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

## ww = 50 - 59 Drizzle

- |    |  |   |                                      |
|----|--|---|--------------------------------------|
| 50 | Drizzle, not freezing, intermittent          | { | slight at time of observation        |
| 51 | Drizzle, not freezing, continuous            |   |                                      |
| 52 | Drizzle, not freezing, intermittent          | { | moderate at time of observation      |
| 53 | Drizzle, not freezing, continuous            |   |                                      |
| 54 | Drizzle, not freezing, intermittent          | { | heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous            |   |                                      |
| 56 | Drizzle, freezing, slight                    |   |                                      |
| 57 | Drizzle, freezing, moderate or heavy (dense) |   |                                      |
| 58 | Drizzle and rain, slight                     |   |                                      |
| 59 | Drizzle and rain, moderate or heavy          |   |                                      |

## ww = 60 - 69 Rain

- |    |   |   |                                 |
|----|---|---|---------------------------------|
| 60 | Rain, not freezing, intermittent            | { | slight at time of observation   |
| 61 | Rain, not freezing, continuous              |   |                                 |
| 62 | Rain, not freezing, intermittent            | { | moderate at time of observation |
| 63 | Rain, not freezing, continuous              |   |                                 |
| 64 | Rain, not freezing, intermittent            | { | heavy at time of observation    |
| 65 | Rain, not freezing, continuous              |   |                                 |
| 66 | Rain, freezing, slight                      |   |                                 |
| 67 | Rain, freezing, moderate or heavy           |   |                                 |
| 68 | Rain or drizzle and snow, slight            |   |                                 |
| 69 | Rain or drizzle and snow, moderate or heavy |   |                                 |

## 70 - 79 Solid precipitation not in showers

- |    |   |   |                                 |
|----|---|---|---------------------------------|
| ww |   |   |                                 |
| 70 | Intermittent fall of snow flakes                      | { | slight at time of observation   |
| 71 | Continuous fall of snow flakes                        |   |                                 |
| 72 | Intermittent fall of snow flakes                      | { | moderate at time of observation |
| 73 | Continuous fall of snow flakes                        |   |                                 |
| 74 | Intermittent fall of snow flakes                      | { | heavy at time of observation    |
| 75 | Continuous fall of snow flakes                        |   |                                 |
| 76 | Ice prisms (with or without fog)                      |   |                                 |
| 77 | Snow grains (with or without fog)                     |   |                                 |
| 78 | Isolated starlike snow crystals (with or without fog) |   |                                 |
| 79 | Ice pellets, type (a)                                 |   |                                 |

## ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

- |    |  |   |   |
|----|--|---|---|
| 80 | Rain shower(s), slight   |   |   |
| 81 | Rain shower(s), moderate or heavy  |   |   |
| 82 | Rain shower(s), violent  |   |   |
| 83 | Shower(s) of rain and snow mixed, slight   |   |   |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy  |   |   |
| 85 | Snow shower(s), slight   |   |   |
| 86 | Snow shower(s), moderate or heavy  |   |   |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain                         | { | - slight  |
| 88 | or rain and snow mixed   |   |   |
| 89 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder      | { | - moderate or heavy   |
| 90 |  |   |   |
| 91 | Slight rain at time of observation   | { | thunderstorm during the preceding hour but not at time of observation |
| 92 | Moderate or heavy rain at time of observation  |   |   |
| 93 | Slight snow, or rain and snow mixed or hail at time of observation                               | { | thunderstorm at time of observation                                   |
| 94 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation                    |   |   |
| 95 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | { | thunderstorm at time of observation                                   |
| 96 | Thunderstorm, slight or moderate, with hail at time of observation                               |   |   |
| 97 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation              | { | thunderstorm at time of observation                                   |
| 98 | Thunderstorm, combined with duststorm or sandstorm at time of observation                        |   |   |
| 99 | Thunderstorm, heavy, with hail at time of observation  |   |   |

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

| Code | Cloud Type   | Code | Cloud Type             |
|------|--|------|------------------------|
| 0    | Cirrus ..... Ci  | 5    | Nimbostratus ..... Ns  |
| 1    | Cirrocumulus ..... Cc  | 6    | Stratocumulus ..... Sc |
| 2    | Cirrostratus ..... Cs  | 7    | Stratus ..... St       |
| 3    | Alto cumulus ..... Ac  | 8    | Cumulus ..... Cu       |
| 4    | Altostratus ..... As   | 9    | Cumulonimbus ..... Cb  |
| X    | Cloud not visible owing to darkness, fog, dust storm, sand storm, or other analogous phenomena |      |                        |

Table 9. CLOUD AMOUNT CODE

| Code | Cloud Cover                     | Code | Cloud Cover   |
|------|---------------------------------|------|---|
| 0    | 0                               | 6    | 6 oktas   |
| 1    | 1 okta or less,<br>but not zero | 7    | 7 oktas or more,<br>but not 8 oktas                     |
| 2    | 2 oktas                         | 8    | 8 oktas   |
| 3    | 3 oktas                         | 9    | Sky obscured, or<br>cloud amount cannot<br>be estimated |
| 4    | 4 oktas                         |      |   |
| 5    | 5 oktas                         |      |   |

Note: 1 okta =  $\frac{1}{8}$  of the sky covered

Table 10. VISIBILITY

| Code | Estimate of hor. Visibility                              |
|------|--|
| 0    | Less than 50 metres (less than 55 yards)                 |
| 1    | 50-200 metres (approx. 55-220 yards)                     |
| 2    | 200-500 metres (approx. 220-550 yards)                   |
| 3    | 500-1,000 metres (approx. 550 yards- $\frac{3}{4}$ n.m.) |
| 4    | 1-2 km (approx. $\frac{3}{4}$ -1 n.m.)                   |
| 5    | 2-4 km (approx. 1-2 n.m.)                                |
| 6    | 4-10 km (approx. 2-6 n.m.)                               |
| 7    | 10-20 km (approx. 6-12 n.m.)                             |
| 8    | 20-50 km (approx. 12-30 n.m.)                            |
| 9    | 50 km or more (30 n.m. or more)                          |

Note: n.m. = nautical mile

TABLE 11. INSTITUTE CODE

| Code | Institute   |
|------|---|
| 01   | Marine Ecology Laboratory, Bedford Institute                |
| 02   | Pacific Oceanographic Group                                 |
| 03   | Biological Station, St. Andrews, N.B.                       |
| 04   | Arctic Biological Station, Ste. Anne de Bellevue, P.Q.      |
| 05   | Biological Station, St. John's Nfld.                        |
| 06   | Station de Biologie Marine, Grande Riviere, P.Q.            |
| 07   | Marine Sciences Branch, Central Region                      |
| 08   | Defence Research Establishment, Atlantic                    |
| 09   | Defence Research Establishment, Pacific                     |
| 10   | Atlantic Oceanographic Laboratory, Bedford Institute        |
| 11   | Polar Continental Shelf Project                             |
| 12   | Great Lakes Institute                                       |
| 13   | Institute of Oceanography, University of British Columbia   |
| 14   | Institute of Oceanography, Dalhousie University             |
| 15   | Marine Sciences Branch, Pacific Region                      |
| 16   | Department of Transport                                     |
| 17   | Marine Sciences Centre, McGill University                   |
| 18   | Canadian Forces Maritime Command, East Coast                |
| 19   | Canadian Forces Maritime Command, West Coast                |
| 20   | Ontario Water Resources Commission                          |
| 21   | Dept. of National Health and Welfare                        |
| 22   | Inland Waters Branch, Dept. of Energy, Mines and Resources. |



### SECTION III

Serial oceanographic data



GENERAL INFORMATION

|   |                                  |
|---|----------------------------------|
| <u>Institute:</u>                         | Pacific Oceanographic Group      |
| <u>Observation platform:</u>              | CCGS "Labrador"                  |
| <u>Vessel's cruising speed:</u>           | 10 knots                         |
| <u>Total number of stations occupied:</u> | 68                               |
| <u>Anemometer height above sea level:</u> | 13 metres                        |
| <u>Barometer readings:</u>                | Aneroid Barometer (corrected)    |
| <u>Air temperature:</u>                   | Sling Psychrometer               |
| <u>Surface sea water temperature:</u>     | Bucket sample (deck thermometer) |



|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 246  | WAVES 1 XX  | AIR T 00.8  | VIS     |
| CONS. NO 001 | MONTH 8  | MXSAMPD 02 | WAVES 2 XX  | WET B -00.5 | STN 001 |
| LAT 74-153N  | DAY 17   | NO.DPTH 11 | WND-DIR 270 | WW-CODE 01  |         |
| LON 90-410W  | HR 10.9  | W-COLOR    | WND-SPD 01  | CLD-TPE 6   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1000.7 | CLD-AMT 6   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 109 | 0000  |         | 29228 |        |      |       |
| 109 | 0010  | -0123 B | 30582 |        | 2461 | 14376 |
| 109 | 0020  | -0132 B | 31590 |        | 2542 | 14387 |
| 109 | 0030  | -0146 B | 31990 |        | 2575 | 14388 |
| 109 | 0050  | -0153 B | 32307 |        | 2601 | 14392 |
| 109 | 0075  | -0150 B | 32575 |        | 2623 | 14402 |
| 109 | 0100  | -0139 B | 32799 |        | 2640 | 14414 |
| 109 | 0125  | -0132 B | 33008 |        | 2657 | 14424 |
| 109 | 0150  | -0131 B | 33036 |        | 2659 | 14429 |
| 109 | 0175  | -0132   | 33062 |        | 2661 | 14434 |
| 109 | 0200  | -0131 B |       |        |      |       |



|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 737  | WAVES 1 XX  | AIR T 04.3 | VIS     |
| CONS. NO 002 | MONTH 8  | MXSAMPD 06 | WAVES 2 XX  | WET B 03.3 | STN 002 |
| LAT 77-022N  | DAY 19   | NO.DPTH 15 | WND-DIR 350 | WW-CODE 02 |         |
| LON 71-400W  | HR 21.1  | W-COLOR    | WND-SPD 01  | CLD-TPE 0  |         |
| MARSD SQ 260 | C/I 1802 | W-TRNSP    | BARO 1005.1 | CLD-AMT 1  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 211 | 0000  |         | 31280 |        |      |       |
| 211 | 0010  | 0088 B  | 32337 |        | 2594 | 14498 |
| 211 | 0020  | 0121 B  | 31772 |        | 2546 | 14506 |
| 211 | 0030  | -0034 B | 32616 |        | 2622 | 14449 |
| 211 | 0050  | -0088 B | 33106 |        | 2664 | 14434 |
| 211 | 0075  | -0116 B | 33284 |        | 2679 | 14428 |
| 211 | 0100  | -0139 B | 33429 |        | 2691 | 14423 |
| 211 | 0125  | -0143 B | 33519 |        | 2699 | 14426 |
| 211 | 0150  | -0132 B | 33607 |        | 2706 | 14437 |
| 211 | 0175  | -0117 B | 33686 |        | 2712 | 14449 |
| 211 | 0200  | -0105 B | 33732 |        | 2715 | 14460 |
| 211 | 0300  | 0025 B  | 34111 |        | 2740 | 14542 |
| 211 | 0400  | 0066 B  | 34310 |        | 2753 | 14579 |
| 211 | 0500  | 0076    | 34346 |        | 2756 | 14601 |
| 211 | 0600  | 0082    | 34364 |        | 2757 | 14621 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 583  | WAVES 1 XX  | AIR T 05.0 | VIS     |
| CONS. NO 003 | MONTH 8  | MXSAMPD 05 | WAVES 2 XX  | WET B 03.7 | STN 003 |
| LAT 77-00N   | DAY 20   | NO.DPTH 15 | WND-DIR 210 | WW-CODE 02 |         |
| LON 74-16W   | HR 01.8  | W-COLOR    | WND-SPD 01  | CLD-TPE    |         |
| MARSD SQ 260 | C/I 1802 | W-TRNSP    | BARO 1004.8 | CLD-AMT 0  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 018 | 0000  | 0050 B  | 32455 |        | 2605 | 14480 |
| 018 | 0010  | 0039 B  | 32915 |        | 2643 | 14483 |
| 018 | 0020  | 0249 B  | 32483 |        | 2594 | 14573 |
| 018 | 0030  | -0063 B | 33051 |        | 2658 | 14442 |
| 018 | 0050  | -0111 B | 33216 |        | 2673 | 14425 |
| 018 | 0075  | -0122 B | 33333 |        | 2683 | 14426 |
| 018 | 0100  | -0134 B | 33410 |        | 2690 | 14425 |
| 018 | 0125  | -0141 B | 33524 |        | 2699 | 14428 |
| 018 | 0150  | -0117 B | 33664 |        | 2710 | 14445 |
| 018 | 0175  | -0109 B | 33784 |        | 2719 | 14454 |
| 018 | 0200  | -0098 B | 33005 |        | 2656 | 14453 |
| 018 | 0250  | -0080 B | 34014 |        | 2737 | 14484 |
| 018 | 0300  | -0073 B | 34084 |        | 2742 | 14496 |
| 018 | 0400  | -0060   | 34187 |        | 2750 | 14520 |
| 018 | 0500  | -0052   | 34232 |        | 2753 | 14541 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 173  | WAVES 1 XX  | AIR T 03.3 | VIS     |
| CONS. NO 004 | MONTH 8  | MXSAMPD 01 | WAVES 2 XX  | WET B 02.3 | STN 004 |
| LAT 77-000N  | DAY 20   | NO.DPTH 9  | WND-DIR 160 | WW-CODE 02 |         |
| LON 77-000W  | HR 12.4  | W-COLOR    | WND-SPD 04  | CLD-TPE 6  |         |
| MARSD SQ 260 | C/I 1802 | W-TRNSP    | BARO 1002.5 | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 124 | 0000  | 0100 B  | 30615 |        | 2455 | 14478 |
| 124 | 0010  | 0141 B  | 31482 |        | 2522 | 14510 |
| 124 | 0020  | 0095 B  | 32509 |        | 2607 | 14505 |
| 124 | 0030  | -0056 B | 33037 |        | 2657 | 14445 |
| 124 | 0050  | -0131 B | 33219 |        | 2674 | 14416 |
| 124 | 0075  | -0151 B | 33375 |        | 2687 | 14412 |
| 124 | 0100  | -0169 B | 33448 |        | 2694 | 14409 |
| 124 | 0125  | -0159 B | 33528 |        | 2700 | 14419 |
| 124 | 0150  | -0163 B | 33603 |        | 2706 | 14422 |

|              |          |            |             |         |       |         |
|--------------|----------|------------|-------------|---------|-------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH      | WAVES 1     | XX      | AIR T | VIS     |
| CONS. NO 005 | MONTH 8  | MXSAMPD 01 | WAVES 2     | XX      | WET B | STN 005 |
| LAT 76-170N  | DAY 20   | NO.DPTH 10 | WND-DIR 250 | WW-CODE |       |         |
| LON 78-030W  | HR 16.6  | W-COLOR    | WND-SPD 06  | CLD-TPE |       |         |
| MARSD SQ 260 | C/I 1802 | W-TRNSP    | BARO 997.6  | CLD-AMT | HW    |         |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 166 | 0000  | 0109 B  | 3135 B |        | 2513 | 14492 |
| 166 | 0002  | 0092 B  | 3148 B |        | 2525 | 14486 |
| 166 | 0004  | 0092 B  | 3157 B |        | 2532 | 14488 |
| 166 | 0006  | 0098 B  | 3158 B |        | 2532 | 14491 |
| 166 | 0010  | 0104 B  | 3187 B |        | 2555 | 14499 |
| 166 | 0015  | 0113 B  | 3233 B |        | 2592 | 14510 |
| 166 | 0020  | 0046 B  | 3272 B |        | 2627 | 14486 |
| 166 | 0030  | -0051 B | 3316 B |        | 2667 | 14449 |
| 166 | 0050  | -0091 B | 3376 B |        | 2717 | 14442 |
| 166 | 0056  | -0107 B | 3381 B |        | 2721 | 14436 |

|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 006 | MONTH 8  | MXSAMPD | 01 | WAVES 2 | XX | WET B   | STN 006 |
| LAT 76-172N  | DAY 20   | NO.DPTH | 10 | WND-DIR |    | WW-CODE |         |
| LON 78-060W  | HR 17.0  | W-COLOR |    | WND-SPD |    | CLO-TPE |         |
| MARSD SQ 260 | C/I 1802 | W-TRNSP |    | BARO    |    | CLO-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 170 | 0000  | 0091 B  | 3117 B |        | 2500 | 14481 |
| 170 | 0002  | 0092 B  | 3177 B |        | 2548 | 14490 |
| 170 | 0004  | 0102 B  | 3190 B |        | 2558 | 14497 |
| 170 | 0006  | 0087 B  | 3194 B |        | 2562 | 14491 |
| 170 | 0010  | 0038 B  | 3285 B |        | 2638 | 14482 |
| 170 | 0015  | 0013 B  | 3261 B |        | 2620 | 14468 |
| 170 | 0020  | -0024 B | 3280 B |        | 2636 | 14455 |
| 170 | 0030  | -0054 B | 3340 B |        | 2686 | 14451 |
| 170 | 0050  | -0108 B | 3386 B |        | 2725 | 14435 |
| 170 | 0056  | -0114 B | 3387 B |        | 2726 | 14434 |



|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 007 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX | WET B   | STN 007 |
| LAT 76-177N  | DAY 20   | NO.DPTH | 9  | WND-DIR |    | WW-CODE |         |
| LON 78-110W  | HR 17.5  | W-COLOR |    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 260 | C/I 1802 | W-TRNSP |    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 175 | 0000  | 0114 B  | 3125 B |        | 2505 | 14493 |
| 175 | 0002  | 0111 B  | 3121 B |        | 2502 | 14491 |
| 175 | 0004  | 0113 B  | 3128 B |        | 2507 | 14494 |
| 175 | 0006  | 0106 B  | 3149 B |        | 2525 | 14494 |
| 175 | 0010  | 0079 B  | 3211 B |        | 2576 | 14491 |
| 175 | 0015  | 0077 B  | 3322 B |        | 2665 | 14506 |
| 175 | 0020  | -0023 B | 3347 B |        | 2690 | 14464 |
| 175 | 0030  | -0072 B | 3367 B |        | 2709 | 14446 |
| 175 | 0050  | -0111 B | 3396 B |        | 2733 | 14435 |

|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 008 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX | WET B   | STN 008 |
| LAT 76-182N  | DAY 20   | NO.DPTH | 9  | WND-DIR |    | WW-CODE |         |
| LON 78-220W  | HR 18.1  | W-COLOR |    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 260 | C/I 1802 | W-TRNSP |    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 181 | 0000  | 0107 B  | 3076 B |        | 2466 | 14483 |
| 181 | 0002  | 0102 B  | 3089 B |        | 2477 | 14483 |
| 181 | 0004  | 0093 B  | 3082 B |        | 2472 | 14478 |
| 181 | 0006  | 0107 B  | 3199 B |        | 2565 | 14501 |
| 181 | 0010  | 0114 B  | 3242 B |        | 2599 | 14511 |
| 181 | 0015  | 0031 B  | 3324 B |        | 2669 | 14485 |
| 181 | 0020  | -0035 B | 3351 B |        | 2694 | 14459 |
| 181 | 0030  | -0076 B | 3397 B |        | 2733 | 14449 |
| 181 | 0050  | -0109 B | 3413 B |        | 2747 | 14439 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 356  | WAVES 1 XX  | AIR T 01.7 | VIS     |
| CONS. NO 009 | MONTH 8  | MXSAMPD 03 | WAVES 2 XX  | WET B 00.9 | STN 009 |
| LAT 75-413N  | DAY 20   | NO.DPTH 13 | WND-DIR 320 | WW-CODE 01 |         |
| LON 79-500W  | HR 23.3  | W-COLOR    | WND-SPD 10  | CLD-TPE 7  |         |
| MARSD SQ 260 | C/I 1802 | W-TRNSP    | BARO 1004.5 | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 233 | 0000  |         | 31699 |        |      |       |
| 233 | 0010  | -0022 B | 31684 |        | 2547 | 14438 |
| 233 | 0020  | -0041 B | 32046 |        | 2576 | 14436 |
| 233 | 0030  | -0058 B | 32513 |        | 2615 | 14437 |
| 233 | 0050  | -0102 B | 32925 |        | 2649 | 14425 |
| 233 | 0075  | -0103 B | 33110 |        | 2664 | 14431 |
| 233 | 0100  | -0105 B | 33264 |        | 2677 | 14437 |
| 233 | 0125  | -0116 B |       |        |      |       |
| 233 | 0150  | -0111 B | 33383 |        | 2687 | 14444 |
| 233 | 0175  | -0124 B | 33498 |        | 2697 | 14443 |
| 233 | 0200  | -0153 B | 33608 |        | 2706 | 14435 |
| 233 | 0250  | -0120   | 33755 |        | 2717 | 14461 |
| 233 | 0300  | -0069   | 33755 |        | 2715 | 14493 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 786  | WAVES 1 XX  | AIR T 01.5 | VIS     |
| CONS. NO 010 | MONTH 8  | MXSAMPD 06 | WAVES 2 XX  | WET B 01.0 | STN 010 |
| LAT 76-060N  | DAY 21   | NO.DPTH 14 | WND-DIR 150 | WW-CODE 02 |         |
| LOD 85-200W  | HR 04.4  | W-COLOR    | WND-SPD 09  | CLD-TPE 7  |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP    | BARO 1013.6 | CLD-AMT 1  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 044 | 0000  |         | 30756 |        |      |       |
| 044 | 0010  | -0078 B | 32488 |        | 2613 | 14424 |
| 044 | 0020  | -0113 B | 32797 |        | 2639 | 14413 |
| 044 | 0030  | -0116 B | 33013 |        | 2657 | 14416 |
| 044 | 0050  | -0101 B | 33171 |        | 2669 | 14429 |
| 044 | 0075  | -0096 B | 33272 |        | 2677 | 14437 |
| 044 | 0100  | -0093 B | 33368 |        | 2685 | 14444 |
| 044 | 0125  | -0098 B | 33478 |        | 2694 | 14447 |
| 044 | 0150  | -0113 B | 33596 |        | 2704 | 14446 |
| 044 | 0200  | -0113 B |       |        |      |       |
| 044 | 0300  | -0067 B | 33971 |        | 2733 | 14497 |
| 044 | 0400  | -0038 B | 34116 |        | 2743 | 14529 |
| 044 | 0500  | -0029   | 34187 |        | 2749 | 14551 |
| 044 | 0600  | -0026   | 34224 |        | 2751 | 14570 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 237  | WAVES 1 XX  | AIR T 03.4 | VIS     |
| CONS. NO 011 | MONTH 8  | MXSAMPD 02 | WAVES 2 XX  | WET B 02.0 | STN 011 |
| LAT 77-000N  | DAY 22   | NO.DPTH 11 | WND-DIR 190 | WW-CODE 03 |         |
| LON 89-460W  | HR 19.0  | W-COLOR    | WND-SPD 04  | CLD-TPE 0  |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP    | BARO 1010.0 | CLD-AMT 5  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 190 | 0000  |         | 30884 |        |      |       |
| 190 | 0010  | -0082 B | 31222 |        | 2511 | 14404 |
| 190 | 0020  | -0129 B | 32117 |        | 2585 | 14396 |
| 190 | 0030  | -0154 B | 32244 |        | 2596 | 14388 |
| 190 | 0050  | -0149 B | 32496 |        | 2616 | 14397 |
| 190 | 0075  | -0115 B | 33102 |        | 2664 | 14426 |
| 190 | 0100  | -0078 B | 33454 |        | 2691 | 14452 |
| 190 | 0125  | -0059 B | 33820 |        | 2720 | 14470 |
| 190 | 0150  | -0040 B | 34078 |        | 2740 | 14487 |
| 190 | 0175  | -0024 B | 34282 |        | 2756 | 14501 |
| 190 | 0200  | -0006 B | 34493 |        | 2772 | 14516 |



|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 305  | WAVES 1 XX  | AIR T 06.5 | VIS     |
| CONS. NO 012 | MONTH 8  | MXSAMPD 03 | WAVES 2 XX  | WET B 04.0 | STX 012 |
| LAT 78-061N  | DAY 23   | NO.DPTH 13 | WND-DIR 010 | WW-CODE 02 |         |
| LON 88-120W  | HR 21.6  | W-COLOR    | WND-SPD 04  | CLD-TPE 0  |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP    | BARO 1001.0 | CLD-AMT 1  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 216 | 0000  | 0000 B  | 12502 |        | 1003 | 14187 |
| 216 | 0010  | -0051 B | 31129 |        | 2503 | 14417 |
| 216 | 0020  | -0145 B | 32140 |        | 2587 | 14389 |
| 216 | 0030  | -0130 B | 32299 |        | 2600 | 14400 |
| 216 | 0050  | -0148 B | 32606 |        | 2625 | 14399 |
| 216 | 0075  | -0119 B | 33013 |        | 2657 | 14422 |
| 216 | 0100  | -0093 B | 33452 |        | 2692 | 14445 |
| 216 | 0125  | -0059 B | 33844 |        | 2722 | 14470 |
| 216 | 0150  | -0040 B | 34104 |        | 2742 | 14487 |
| 216 | 0175  | -0026 B | 34298 |        | 2757 | 14500 |
| 216 | 0206  | -0014 B | 34438 |        | 2768 | 14513 |
| 216 | 0260  | 0004    | 34617 |        | 2782 | 14532 |
| 216 | 0297  | 0010    | 34674 |        | 2786 | 14542 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 746  | WAVES 1 XX  | AIR T 00.0  | VIS     |
| CONS. NO 013 | MONTH 8  | MXSAMPD 07 | WAVES 2 XX  | WET B -01.0 | STN 013 |
| LAT 80-438N  | DAY 25   | NO.DPTH 13 | WND-DIR 310 | WW-CODE 02  |         |
| LON 89-230W  | HR 10.9  | W-COLOR    | WND-SPD 10  | CLD-TPE 7   |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP    | BARO 999.3  | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 109 | 0000  |         | 25398 |        |      |       |
| 109 | 0010  | -0122 B | 31930 |        | 2570 | 14395 |
| 109 | 0020  | -0168 B | 32113 |        | 2585 | 14378 |
| 109 | 0030  | -0165 B | 32180 |        | 2591 | 14382 |
| 109 | 0050  | -0169 B | 32256 |        | 2597 | 14384 |
| 109 | 0075  | -0157 B | 32572 |        | 2622 | 14398 |
| 109 | 0100  | -0129 B | 33209 |        | 2673 | 14425 |
| 109 | 0125  | -0089 B | 33689 |        | 2711 | 14454 |
| 109 | 0150  |         | 33997 |        |      |       |
| 109 | 0200  | -0031 B | 34408 |        | 2766 | 14504 |
| 109 | 0300  | 0014 B  | 34744 |        | 2791 | 14545 |
| 109 | 0500  | 0025    | 34744 |        | 2791 | 14584 |
| 109 | 0700  | 0026    | 34870 |        | 2801 | 14619 |

|              |          |         |    |         |       |         |    |         |
|--------------|----------|---------|----|---------|-------|---------|----|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX    | AIR T   |    | VIS     |
| CONS. NO 014 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX    | WET B   |    | STN 014 |
| LAT 80-463N  | DAY 25   | NO.DPTH | 10 | WND-DIR | 190   | WW-CODE | 04 |         |
| LON 86-370W  | HR 14.9  | W-COLOR |    | WND-SPD | 06    | CLD-TPE |    |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 999.3 | CLD-AMT |    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 149 | 0000  | 0141 B  | 2175 B |        | 1744 | 14376 |
| 149 | 0001  | 0139 B  | 2235 B |        | 1792 | 14384 |
| 149 | 0002  | 0130 B  | 2275 B |        | 1824 | 14385 |
| 149 | 0004  | 0067 B  | 2718 B |        | 2181 | 14416 |
| 149 | 0006  | 0033 B  | 2966 B |        | 2382 | 14435 |
| 149 | 0010  | -0020 B | 3116 B |        | 2504 | 14432 |
| 149 | 0015  | -0049 B | 3170 B |        | 2549 | 14427 |
| 149 | 0020  | -0093 B | 3196 B |        | 2571 | 14411 |
| 149 | 0030  | -0153 B | 3311 B |        | 2666 | 14400 |
| 149 | 0050  | -0159 B | 3295 B |        | 2653 | 14399 |

|              |          |            |         |    |         |         |
|--------------|----------|------------|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 612  | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 015 | MONTH 8  | MXSAMPD 00 | WAVES 2 | XX | WET B   | STN 015 |
| LAT 80-370N  | DAY 25   | NO.DPTH 9  | WND-DIR |    | WW-CODE |         |
| LON 87-140W  | HR 16.4  | W-COLOR    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 164 | 0000  | 0016 B  | 1991 B |        | 1599 | 14294 |
| 164 | 0002  | 0053 B  | 2468 B |        | 1981 | 14376 |
| 164 | 0004  | 0059 B  | 2590 B |        | 2079 | 14395 |
| 164 | 0006  | 0053 B  | 2917 B |        | 2341 | 14438 |
| 164 | 0010  | 0010 B  | 3050 B |        | 2450 | 14437 |
| 164 | 0015  | -0039 B | 3133 B |        | 2519 | 14426 |
| 164 | 0020  | -0129 B | 3215 B |        | 2588 | 14397 |
| 164 | 0030  | -0157 B | 3272 B |        | 2634 | 14393 |
| 164 | 0047  | -0167 B | 3349 B |        | 2697 | 14402 |

|              |          |         |    |              |            |         |
|--------------|----------|---------|----|--------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 26X0 | AIR T 00.5 | VIS     |
| CONS. NO 016 | MONTH 8  | MXSAMPD | 00 | WAVES 2 XX   | WET B 00.0 | STN C16 |
| LAT 80-315N  | DAY 25   | NO.DPTH | 9  | WND-DIR 260  | WW-CODE    |         |
| LON 87-310W  | HR 23.8  | W-COLOR |    | WND-SPD 01   | CLD-TPE    |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO 1005.6  | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 238 | 0000  | 0017 B  | 2512 B |        | 2018 | 14365 |
| 238 | 0002  | 0000 B  | 2941 B |        | 2363 | 14416 |
| 238 | 0004  | -0020 B | 3065 B |        | 2463 | 14424 |
| 238 | 0006  | -0060 B | 3118 B |        | 2507 | 14413 |
| 238 | 0010  | -0128 B | 3112 B |        | 2504 | 14381 |
| 238 | 0015  | -0150 B | 3273 B |        | 2635 | 14394 |
| 238 | 0020  | -0164 B | 3291 B |        | 2650 | 14391 |
| 238 | 0030  | -0158 B | 3320 B |        | 2673 | 14399 |
| 238 | 0050  | -0152 B | 3320 B |        | 2673 | 14405 |



|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 017 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX | WET B   | STN 017 |
| LAT 80-130N  | DAY 26   | NO.DPTH | 9  | WND-DIR |    | WW-CODE |         |
| LON 87-070W  | HR 13.2  | W-COLOR |    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 132 | 0000  | -0015 B | 2533 B |        | 2035 | 14352 |
| 132 | 0002  | -0012 B | 2704 B |        | 2173 | 14378 |
| 132 | 0004  | -0067 B | 3174 B |        | 2553 | 14417 |
| 132 | 0006  | -0086 B | 3188 B |        | 2565 | 14411 |
| 132 | 0009  | -0123 B | 3207 B |        | 2581 | 14396 |
| 132 | 0014  | -0157 B | 3244 B |        | 2612 | 14386 |
| 132 | 0019  | -0158 B | 3244 B |        | 2612 | 14387 |
| 132 | 0028  | -0160 B | 3252 B |        | 2618 | 14388 |
| 132 | 0047  | -0171 B | 3297 B |        | 2655 | 14393 |

|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 018 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX | WET B   | STN C18 |
| LAT 79-588N  | DAY 26   | NO.DPTH | 6  | WND-DIR |    | WW-CODE |         |
| LON 85-568W  | HR 17.2  | W-COLOR |    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP |    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 172 | 0000  | 0008 B  | 2625 B |        | 2108 | 14376 |
| 172 | 0003  | 0050 B  | 2756 B |        | 2212 | 14414 |
| 172 | 0009  | 0020 B  | 2842 B |        | 2282 | 14413 |
| 172 | 0020  | -0070 B | 3115 B |        | 2505 | 14410 |
| 172 | 0030  | -0138 B | 3242 B |        | 2610 | 14398 |
| 172 | 0050  | -0142 B | 3263 B |        | 2627 | 14402 |

|              |          |         |    |         |        |            |         |
|--------------|----------|---------|----|---------|--------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 02.3 | VIS     |
| CONS. NO 019 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B 00.6 | STN 019 |
| LAT 80-003N  | DAY 27   | NO.DPTH | 9  | WND-DIR | 150    | WW-CODE 02 |         |
| LON 86-570W  | HR 21.1  | W-COLOR |    | WND-SPD | 01     | CLD-TPE    |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.1 | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 211 | 0000  | 0033 B  | 2527 B |        | 2029 | 14374 |
| 211 | 0002  | 0023 B  | 2617 B |        | 2102 | 14382 |
| 211 | 0004  | 0010 B  | 2622 B |        | 2106 | 14377 |
| 211 | 0006  | -0010 B | 2692 B |        | 2163 | 14378 |
| 211 | 0010  | -0086 B | 3157 B |        | 2540 | 14407 |
| 211 | 0015  | -0142 B | 3220 B |        | 2592 | 14390 |
| 211 | 0020  | -0152 B | 3225 B |        | 2596 | 14387 |
| 211 | 0030  | -0155 B | 3239 B |        | 2608 | 14389 |
| 211 | 0050  | -0162 B | 3238 B |        | 2607 | 14389 |

|              |          |         |    |         |        |            |         |
|--------------|----------|---------|----|---------|--------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 02.7 | VIS     |
| CONS. NO 020 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B 01.4 | STN 020 |
| LAT 80-011N  | DAY 27   | NO.DPTH | 10 | WND-DIR | 230    | WW-CODE 00 |         |
| LON 86-540W  | HR 22.5  | W-COLOR |    | WND-SPD | 01     | CLD-TPE    |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.1 | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 225 | 0000  | -0010 B | 2494 B |        | 2004 | 14349 |
| 225 | 0002  | 0006 B  | 2537 B |        | 2038 | 14363 |
| 225 | 0004  | 0014 B  | 2555 B |        | 2052 | 14370 |
| 225 | 0006  | 0010 B  | 2581 B |        | 2073 | 14372 |
| 225 | 0008  | -0003 B | 2739 B |        | 2200 | 14388 |
| 225 | 0010  | -0023 B | 2974 B |        | 2390 | 14411 |
| 225 | 0015  | -0143 B | 3211 B |        | 2585 | 14389 |
| 225 | 0020  | -0157 B | 3229 B |        | 2600 | 14385 |
| 225 | 0030  | -0162 B | 3247 B |        | 2614 | 14387 |
| 225 | 0050  | -0159 B | 3254 B |        | 2620 | 14393 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 466  | WAVES 1 XX  | AIR T 02.7 | VIS     |
| CONS. NO 021 | MONTH 8  | MXSAMPD 04 | WAVES 2 XX  | WET B 01.4 | STN 021 |
| LAT 80-011N  | DAY 27   | NO.DPTH 13 | WND-DIR 230 | WW-CODE 00 |         |
| LON 86-540W  | HR 23.0  | W-COLOR    | WND-SPD 05  | CLD-TPE    |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP    | BARO 1005.1 | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 230 | 0000  | 0066 B  | 25250 |        | 2027 | 14389 |
| 230 | 0010  | -0066 B | 31106 |        | 2501 | 14410 |
| 230 | 0020  | -0167 B | 32150 |        | 2588 | 14379 |
| 230 | 0030  | -0165 B | 32214 |        | 2594 | 14382 |
| 230 | 0050  | -0172 B | 32297 |        | 2600 | 14383 |
| 230 | 0075  | -0138 B | 32896 |        | 2648 | 14412 |
| 230 | 0100  | -0099 B | 33518 |        | 2697 | 14443 |
| 230 | 0125  | -0077 B | 33819 |        | 2721 | 14462 |
| 230 | 0150  |         | 33942 |        |      |       |
| 230 | 0200  | -0031 B | 34422 |        | 2768 | 14504 |
| 230 | 0250  | -0001 B | 34645 |        | 2784 | 14529 |
| 230 | 0300  | 0011    | 34743 |        | 2791 | 14544 |
| 230 | 0400  | 0024    | 34827 |        | 2797 | 14568 |



|              |          |         |    |         |        |            |         |
|--------------|----------|---------|----|---------|--------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 01.9 | VIS     |
| CONS. NO 022 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B 00.6 | STN 022 |
| LAT 80-020N  | DAY 27   | NO.DPTH | 4  | WND-DIR | 340    | WW-CODE 02 |         |
| LON 86-420W  | HR 23.9  | W-COLOR |    | WND-SPD | 07     | CLD-TPE    |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1004.7 | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 239 | 0015  | -0044 B | 3033 B |        | 2438 | 14410 |
| 239 | 0020  | -0130 B | 3219 B |        | 2591 | 14397 |
| 239 | 0030  | -0153 B | 3230 B |        | 2600 | 14389 |
| 239 | 0050  | -0149 B | 3231 B |        | 2601 | 14394 |

|              |          |         |    |         |        |         |    |         |
|--------------|----------|---------|----|---------|--------|---------|----|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T   |    | VIS     |
| CONS. NO 023 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B   |    | STN 023 |
| LAT 80-140N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 290    | WW-CODE | 36 |         |
| LON 86-400W  | HR 01.3  | W-COLOR |    | WND-SPD | 04     | CLD-TPE |    |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1001.0 | CLD-AMT |    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 013 | 0000  | -0045 B | 2457 B |        | 1974 | 14328 |
| 013 | 0002  | -0035 B | 2498 B |        | 2007 | 14339 |
| 013 | 0004  | -0044 B | 2492 B |        | 2003 | 14334 |
| 013 | 0006  | -0005 B | 2821 B |        | 2266 | 14398 |
| 013 | 0008  | -0009 B | 2912 B |        | 2340 | 14409 |
| 013 | 0010  | -0038 B | 3064 B |        | 2463 | 14416 |
| 013 | 0015  | -0122 B | 3210 B |        | 2583 | 14398 |
| 013 | 0020  | -0133 B | 3227 B |        | 2597 | 14396 |
| 013 | 0030  | -0143 B | 3230 B |        | 2600 | 14394 |
| 013 | 0048  | -0150 B | 3244 B |        | 2612 | 14395 |

|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 024 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX | WET B   | STN 024 |
| LAT 80-143N  | DAY 30   | NO.DPTH | 10 | WND-DIR |    | WW-CODE | 36      |
| LON 87-050W  | HR 02.0  | W-COLOR |    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 020 | 0000  | -0036 B | 2445 B |        | 1965 | 14330 |
| 020 | 0002  | -0035 B | 2445 B |        | 1965 | 14331 |
| 020 | 0004  | -0027 B | 2463 B |        | 1979 | 14338 |
| 020 | 0006  | -0028 B | 2556 B |        | 2054 | 14350 |
| 020 | 0008  | -0025 B | 2552 B |        | 2051 | 14352 |
| 020 | 0010  | -0009 B | 2747 B |        | 2207 | 14386 |
| 020 | 0015  | -0037 B | 3083 B |        | 2478 | 14420 |
| 020 | 0020  | -0143 B | 3224 B |        | 2595 | 14391 |
| 020 | 0030  | -0152 B | 3236 B |        | 2605 | 14390 |
| 020 | 0050  | -0164 B | 3242 B |        | 2610 | 14389 |

|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 025 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX | WET B   | STN 025 |
| LAT 80-142N  | DAY 30   | NO.DPTH | 10 | WND-DIR |    | WW-CODE |         |
| LUN 87-280W  | HR 02.5  | W-COLOR |    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 025 | 0000  | -0013 B | 2499 B |        | 2008 | 14349 |
| 025 | 0002  | -0016 B | 2512 B |        | 2018 | 14349 |
| 025 | 0004  | -0018 B | 2519 B |        | 2024 | 14350 |
| 025 | 0006  | -0016 B | 2581 B |        | 2074 | 14359 |
| 025 | 0008  | -0018 B | 2585 B |        | 2077 | 14359 |
| 025 | 0010  | -0018 B | 2581 B |        | 2074 | 14359 |
| 025 | 0015  | -0026 B | 2784 B |        | 2237 | 14384 |
| 025 | 0020  | -0128 B | 3209 B |        | 2583 | 14396 |
| 025 | 0030  | -0147 B | 3235 B |        | 2604 | 14392 |
| 025 | 0050  | -0161 B | 3250 B |        | 2617 | 14391 |

|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T -00.1 | VIS     |
| CONS. NO 026 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -01.8 | STN 026 |
| LAT 80-280N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 130    | WW-CODE 22  |         |
| LON 88-040W  | HR 10.2  | W-COLOR |    | WND-SPD | 05     | CLD-TPE     |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1004.0 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 102 | 0000  | -0052 B | 2518 B |        | 2024 | 14333 |
| 102 | 0002  | -0042 B | 2553 B |        | 2052 | 14343 |
| 102 | 0004  | -0049 B | 2603 B |        | 2092 | 14347 |
| 102 | 0006  | -0059 B | 2737 B |        | 2200 | 14361 |
| 102 | 0008  | -0061 B | 2762 B |        | 2220 | 14364 |
| 102 | 0010  | -0061 B | 2887 B |        | 2321 | 14381 |
| 102 | 0015  | -0152 B | 3206 B |        | 2581 | 14384 |
| 102 | 0020  | -0157 B | 3215 B |        | 2588 | 14383 |
| 102 | 0030  | -0160 B | 3236 B |        | 2605 | 14386 |
| 102 | 0050  | -0151 B | 3224 B |        | 2595 | 14392 |



|              |          |         |     |         |        |             |         |
|--------------|----------|---------|-----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   | 841 | WAVES 1 | XX     | AIR T -02.8 | VIS     |
| CONS. NO 027 | MONTH 8  | MXSAMPD | 00  | WAVES 2 | XX     | WET B -03.5 | STN 027 |
| LAT 80-332N  | DAY 30   | NO.DPTH | 10  | WND-DIR | 150    | WW-CODE 22  |         |
| LON 87-510W  | HR 11.0  | W-COLOR |     | WND-SPD | 06     | CLD-TPE     |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |     | BARO    | 1005.8 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 110 | 0000  | -0016 B | 2849 B |        | 2289 | 14395 |
| 110 | 0002  | -0042 B | 2969 B |        | 2387 | 14400 |
| 110 | 0004  | -0128 B | 3115 B |        | 2507 | 14380 |
| 110 | 0006  | -0143 B | 3199 B |        | 2575 | 14385 |
| 110 | 0008  | -0141 B | 3178 B |        | 2558 | 14384 |
| 110 | 0010  | -0157 B | 3200 B |        | 2576 | 14380 |
| 110 | 0015  | -0156 B | 3209 B |        | 2583 | 14382 |
| 110 | 0020  | -0161 B | 3219 B |        | 2592 | 14382 |
| 110 | 0030  | -0161 B | 3234 B |        | 2604 | 14386 |
| 110 | 0050  | -0159 B | 3254 B |        | 2620 | 14393 |

|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NU 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T -00.2 | VIS     |
| CONS. NO 028 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -00.5 | STN 028 |
| LAT 80-385N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 160    | WW-CODE 22  |         |
| LON 87-380W  | HR 11.9  | W-COLOR |    | WND-SPD | 04     | CLD-TPE     |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1003.7 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 119 | 0000  | 0017 B  | 2940 B |        | 2361 | 14423 |
| 119 | 0002  | 0021 B  | 2931 B |        | 2354 | 14424 |
| 119 | 0004  | 0017 B  | 2999 B |        | 2409 | 14432 |
| 119 | 0006  | -0073 B | 3123 B |        | 2512 | 14408 |
| 119 | 0008  | -0103 B | 3171 B |        | 2551 | 14401 |
| 119 | 0010  | -0157 B | 3226 B |        | 2597 | 14383 |
| 119 | 0015  | -0129 B | 3232 B |        | 2601 | 14398 |
| 119 | 0020  | -0140 B | 3235 B |        | 2604 | 14394 |
| 119 | 0030  | -0160 B | 3235 B |        | 2605 | 14386 |
| 119 | 0050  | -0159 B | 3252 B |        | 2618 | 14392 |

|              |          |         |    |         |        |            |         |
|--------------|----------|---------|----|---------|--------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 01.3 | VIS     |
| CONS. NO 029 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B 00.0 | STN 029 |
| LAT 80-412N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 290    | WW-CODE 70 |         |
| LON 86-550W  | HR 13.2  | W-COLOR |    | WND-SPD | 01     | CLD-TPE    |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 132 | 0000  | 0096 B  | 2375 B |        | 1905 | 14383 |
| 132 | 0002  | 0046 B  | 2341 B |        | 1880 | 14355 |
| 132 | 0004  | 0077 B  | 2662 B |        | 2136 | 14413 |
| 132 | 0006  | 0052 B  | 2889 B |        | 2319 | 14433 |
| 132 | 0008  | 0039 B  | 2943 B |        | 2363 | 14435 |
| 132 | 0010  | 0018 B  | 3012 B |        | 2419 | 14435 |
| 132 | 0015  | -0068 B | 3200 B |        | 2574 | 14422 |
| 132 | 0020  | -0135 B | 3202 B |        | 2577 | 14392 |
| 132 | 0030  | -0148 B | 3235 B |        | 2604 | 14392 |
| 132 | 0050  | -0147 B | 3259 B |        | 2624 | 14399 |

|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 00.9  | VIS     |
| CONS. NO 030 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -00.1 | STN 030 |
| LAT 80-412N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 120    | WW-CODE 70  |         |
| LON 86-500W  | HR 13.6  | W-COLOR |    | WND-SPD | 01     | CLD-TPE     |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 136 | 0000  | -0037 B | 2156 B |        | 1732 | 14290 |
| 136 | 0002  | -0029 B | 2596 B |        | 2085 | 14382 |
| 136 | 0004  | -0030 B | 2969 B |        | 2384 | 14434 |
| 136 | 0006  | -0023 B | 3116 B |        | 2504 | 14430 |
| 136 | 0008  | -0053 B | 3153 B |        | 2535 | 14422 |
| 136 | 0010  | -0065 B | 3174 B |        | 2553 | 14419 |
| 136 | 0015  | -0129 B | 3232 B |        | 2601 | 14398 |
| 136 | 0020  | -0139 B | 3239 B |        | 2607 | 14395 |
| 136 | 0030  | -0155 B | 3253 B |        | 2619 | 14391 |
| 136 | 0050  | -0148 B | 3275 B |        | 2637 | 14401 |

|              |          |         |    |         |        |         |      |         |
|--------------|----------|---------|----|---------|--------|---------|------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T   | 00.3 | VIS     |
| CONS. NO 031 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B   | 00.0 | STN 031 |
| LAT 80-412N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 270    | WW-CODE | 70   |         |
| LON 86-410W  | HR 13.8  | W-COLOR |    | WND-SPD | 01     | CLD-TPE |      |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT |      | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 138 | 0000  | -0011 B | 2946 B |        | 2367 | 14411 |
| 138 | 0002  | -0015 B | 3077 B |        | 2473 | 14428 |
| 138 | 0004  | -0044 B | 3139 B |        | 2524 | 14423 |
| 138 | 0006  | -0054 B | 3173 B |        | 2551 | 14423 |
| 138 | 0008  | -0031 B | 3129 B |        | 2515 | 14428 |
| 138 | 0010  | -0049 B | 3169 B |        | 2548 | 14426 |
| 138 | 0015  | -0120 B | 3222 B |        | 2593 | 14401 |
| 138 | 0020  | -0156 B | 3247 B |        | 2614 | 14388 |
| 138 | 0030  | -0155 B | 3250 B |        | 2617 | 14391 |
| 138 | 0050  | -0158 B | 3282 B |        | 2643 | 14397 |

|              |           |         |    |         |        |         |      |         |
|--------------|-----------|---------|----|---------|--------|---------|------|---------|
| C-REF-NO 013 | YR 1967   | DEPTH   |    | WAVES 1 | XX     | AIR T   | 00.7 | VIS     |
| CONS. NO 032 | MONTH 8   | MXSAMPD | 00 | WAVES 2 | XX     | WET B   | 00.0 | STN 032 |
| LAT 80-320N  | DAY 30    | NO.DPTH | 10 | WND-DIR | 220    | WV-CODE | 70   |         |
| LON 85-430W  | HR 15.5   | W-COLOR |    | WND-SPD | 02     | CLD-TPE |      |         |
| MARSD SQ 909 | 07/1 1967 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT |      | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 155 | 0000  | -0015 B | 2065 B |        | 1659 | 14289 |
| 155 | 0002  | 0015 B  | 2590 B |        | 2080 | 14375 |
| 155 | 0004  | 0049 B  | 2697 B |        | 2165 | 14405 |
| 155 | 0006  | 0064 B  | 2851 B |        | 2288 | 14434 |
| 155 | 0008  | 0071 B  | 2929 B |        | 2350 | 14448 |
| 155 | 0010  | 0053 B  | 3019 B |        | 2423 | 14452 |
| 155 | 0015  | -0046 B | 3119 B |        | 2508 | 14421 |
| 155 | 0020  | -0124 B | 3214 B |        | 2587 | 14399 |
| 155 | 0030  | -0152 B | 3225 B |        | 2596 | 14389 |
| 155 | 0050  | -0148 B | 3237 B |        | 2606 | 14396 |



|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 00.0  | VIS     |
| CONS. NO 033 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -00.5 | STN 033 |
| LAT 80-308N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 250    | WW-CODE 26  |         |
| LON 84-130W  | HR 17.0  | W-COLOR |    | WND-SPD | 02     | CLD-TPE     |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 170 | 0000  | -0027 B | 1381 B |        | 1108 | 14191 |
| 170 | 0002  | 0011 B  | 1562 B |        | 1254 | 14234 |
| 170 | 0004  | 0076 B  | 2209 B |        | 1773 | 14352 |
| 170 | 0006  | 0113 B  | 2705 B |        | 2169 | 14436 |
| 170 | 0008  | 0106 B  | 2878 B |        | 2308 | 14457 |
| 170 | 0010  | 0030 B  | 3020 B |        | 2425 | 14442 |
| 170 | 0015  | -0041 B | 3121 B |        | 2509 | 14424 |
| 170 | 0020  | -0123 B | 3215 B |        | 2587 | 14399 |
| 170 | 0030  | -0148 B | 3228 B |        | 2599 | 14391 |
| 170 | 0050  | -0127 B | 3272 B |        | 2634 | 14410 |

|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T -00.5 | VIS     |
| CONS. NO 034 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -00.8 | STN 034 |
| LAT 80-255N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 250    | WW-CODE 70  |         |
| LON 84-050W  | HR 17.3  | W-COLOR |    | WND-SPD | 01     | CLD-TPE     |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 173 | 0000  | -0045 B | 2186 B |        | 1756 | 14291 |
| 173 | 0002  | -0027 B | 2598 B |        | 2088 | 14356 |
| 173 | 0004  | -0012 B | 2700 B |        | 2169 | 14377 |
| 173 | 0006  | -0010 B | 2787 B |        | 2239 | 14391 |
| 173 | 0008  | 0007 B  | 2842 B |        | 2283 | 14406 |
| 173 | 0010  | -0042 B | 3127 B |        | 2514 | 14423 |
| 173 | 0015  | -0097 B | 3203 B |        | 2577 | 14409 |
| 173 | 0020  | -0130 B | 3232 B |        | 2601 | 14398 |
| 173 | 0030  | -0147 B | 3263 B |        | 2627 | 14396 |
| 173 | 0050  | -0149 B | 3273 B |        | 2635 | 14400 |

|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T -00.8 | VIS     |
| CONS. NO 035 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -01.0 | STN 035 |
| LAT 80-204N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 270    | WW-CODE 70  |         |
| LON 84-120W  | HR 18.2  | W-COLOR |    | WND-SPD | 01     | CLD-TPE     |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 182 | 0000  | -0067 B | 2391 B |        | 1922 | 14308 |
| 182 | 0002  | -0061 B | 2400 B |        | 1929 | 14313 |
| 182 | 0004  | -0062 B | 2400 B |        | 1929 | 14313 |
| 182 | 0006  | -0051 B | 2420 B |        | 1945 | 14321 |
| 182 | 0008  | -0044 B | 2491 B |        | 2002 | 14334 |
| 182 | 0010  | 0008 B  | 2839 B |        | 2280 | 14407 |
| 182 | 0015  | -0041 B | 3135 B |        | 2520 | 14426 |
| 182 | 0020  | -0095 B | 3196 B |        | 2571 | 14410 |
| 182 | 0030  | -0140 B | 3224 B |        | 2595 | 14394 |
| 182 | 0050  | -0134 B | 3252 B |        | 2618 | 14404 |

|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 00.0  | VIS     |
| CONS. NO 036 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -00.4 | STN 036 |
| LAT 80-265N  | DAY 30   | NO.DPTH | 10 | WNO-DIR | 290    | WW-CODE 74  |         |
| LON 85-480W  | HR 19.9  | W-COLOR |    | WNO-SPD | 01     | CLD-TPE     |         |
| MARSD SQ 9C9 | C/I 1802 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 199 | 0000  | -0077 B | 2340 B |        | 1881 | 14297 |
| 199 | 0002  | -0029 B | 2882 B |        | 2316 | 14394 |
| 199 | 0004  | -0013 B |        |        |      |       |
| 199 | 0006  | -0055 B | 2982 B |        | 2397 | 14396 |
| 199 | 0008  | -0078 B | 3106 B |        | 2498 | 14403 |
| 199 | 0010  | -0075 B | 3101 B |        | 2494 | 14404 |
| 199 | 0015  | -0116 B | 3221 B |        | 2592 | 14403 |
| 199 | 0020  | -0144 B | 3256 B |        | 2621 | 14395 |
| 199 | 0030  | -0158 B | 3256 B |        | 2621 | 14390 |
| 199 | 0050  | -0142 B | 3264 B |        | 2628 | 14402 |

|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 00.0  | VIS     |
| CONS. NO 037 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -01.0 | STN 037 |
| LAT 80-225N  | DAY 30   | NO.DPTH | 10 | WND-DIR | 160    | WW-CODE 70  |         |
| LON 85-150W  | HR 20.4  | W-COLOR |    | WND-SPD | 01     | CLD-TPE     |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    | 1005.8 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 204 | 0000  | -0016 B | 2672 B |        | 2147 | 14371 |
| 204 | 0002  | -0018 B | 2669 B |        | 2145 | 14370 |
| 204 | 0004  | -0003 B | 2745 B |        | 2205 | 14388 |
| 204 | 0006  | -0014 B | 2747 B |        | 2207 | 14383 |
| 204 | 0008  | -0060 B | 3047 B |        | 2450 | 14403 |
| 204 | 0010  | -0094 B | 3207 B |        | 2580 | 14410 |
| 204 | 0015  | -0123 B | 3230 B |        | 2600 | 14401 |
| 204 | 0020  | -0155 B | 3250 B |        | 2617 | 14389 |
| 204 | 0030  | -0166 B | 3259 B |        | 2624 | 14387 |
| 204 | 0050  | -0154 B | 3270 B |        | 2633 | 14397 |

|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 038 | MONTH 8  | MXSAMPD | 00 | WAVES 2 | XX | WET B   | STN 038 |
| LAT 80-175N  | DAY 31   | NO.DPTH | 10 | WND-DIR |    | WW-CODE |         |
| LON 85-150W  | HR 22.0  | W-COLOR |    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 909 | C/I 1802 | W-TRNSP |    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 220 | 0000  | -0020 B | 2691 B |        | 2162 | 14372 |
| 220 | 0002  | -0003 B |        |        |      |       |
| 220 | 0004  | 0000 B  |        |        |      |       |
| 220 | 0006  | -0005 B | 2829 B |        | 2273 | 14399 |
| 220 | 0008  | -0026 B | 2845 B |        | 2286 | 14391 |
| 220 | 0010  | -0079 B | 3167 B |        | 2547 | 14412 |
| 220 | 0015  | -0097 B | 3211 B |        | 2583 | 14410 |
| 220 | 0020  | -0137 B | 3233 B |        | 2602 | 14395 |
| 220 | 0030  | -0152 B | 3253 B |        | 2619 | 14393 |
| 220 | 0050  | -0147 B | 3282 B |        | 2642 | 14402 |



|              |          |         |    |         |       |             |         |
|--------------|----------|---------|----|---------|-------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX    | AIR T 00.0  | VIS     |
| CONS. NO 039 | MONTH 9  | MXSAMPD | 00 | WAVES 2 | XX    | WET B -00.5 | STN 039 |
| LAT 79-520N  | DAY 01   | NO.DPTH | 10 | WND-DIR | 310   | WW-CODE 03  |         |
| LON 86-340W  | HR 02.1  | W-COLOR |    | WND-SPD | 03    | CLD-TPE     |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP |    | BARO    | 991.2 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 021 | 0000  | -0056 B | 2512 B |        | 2019 | 14330 |
| 021 | 0002  | -0046 B | 2565 B |        | 2061 | 14343 |
| 021 | 0004  | -0044 B | 2562 B |        | 2059 | 14343 |
| 021 | 0006  | -0136 B | 2727 B |        | 2193 | 14323 |
| 021 | 0008  | -0133 B | 2771 B |        | 2229 | 14331 |
| 021 | 0010  | -0091 B | 3152 B |        | 2536 | 14404 |
| 021 | 0015  | -0118 B | 3206 B |        | 2580 | 14400 |
| 021 | 0020  | -0146 B | 3223 B |        | 2594 | 14390 |
| 021 | 0030  | -0154 B | 3236 B |        | 2605 | 14389 |
| 021 | 0050  | -0154 B | 3247 B |        | 2614 | 14394 |

|              |          |         |    |         |       |             |         |
|--------------|----------|---------|----|---------|-------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX    | AIR T 00.0  | VIS     |
| CONS. NO 040 | MONTH 9  | MXSAMPD | 00 | WAVES 2 | XX    | WET B -00.5 | STN 040 |
| LAT 79-520N  | DAY 01   | NO.DPTH | 10 | WND-DIR | 310   | WW-CODE     |         |
| LON 86-47CW  | HR 02.5  | W-COLOR |    | WND-SPD | 03    | CLD-TPE     |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP |    | BARO    | 991.2 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 025 | 0000  | -0032 B | 2622 B |        | 2107 | 14357 |
| 025 | 0002  | -0028 B | 2615 B |        | 2101 | 14358 |
| 025 | 0004  | -0030 B | 2709 B |        | 2177 | 14370 |
| 025 | 0006  | -0031 B | 2794 B |        | 2245 | 14382 |
| 025 | 0008  | -0029 B | 2854 B |        | 2294 | 14391 |
| 025 | 0010  | -0031 B | 3000 B |        | 2411 | 14411 |
| 025 | 0015  | -0127 B | 3215 B |        | 2588 | 14397 |
| 025 | 0020  | -0153 B | 3223 B |        | 2595 | 14386 |
| 025 | 0030  | -0157 B | 3233 B |        | 2603 | 14387 |
| 025 | 0050  | -0163 B | 3252 B |        | 2618 | 14391 |

|              |          |         |    |         |       |             |         |
|--------------|----------|---------|----|---------|-------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX    | AIR T 00.0  | VIS     |
| CONS. NO 041 | MONTH 9  | MXSAMPD | 00 | WAVES 2 | XX    | WET B -00.5 | STN 041 |
| LAT 79-520N  | DAY 01   | NO.DPTH | 10 | WND-DIR | 360   | WW-CODE 03  |         |
| LON 87-020W  | HR 02.9  | W-COLOR |    | WND-SPD | 06    | CLD-TPE     |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP |    | BARO    | 991.2 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 029 | 0000  | -0009 B | 2631 B |        | 2114 | 14369 |
| 029 | 0002  | -0009 B | 2647 B |        | 2127 | 14371 |
| 029 | 0004  | -0013 B | 2687 B |        | 2159 | 14375 |
| 029 | 0006  | -0017 B | 2767 B |        | 2223 | 14385 |
| 029 | 0008  | -0024 B | 2842 B |        | 2284 | 14392 |
| 029 | 0010  | -0031 B | 2947 B |        | 2369 | 14403 |
| 029 | 0015  | -0125 B | 3204 B |        | 2579 | 14396 |
| 029 | 0020  | -0148 B | 3220 B |        | 2592 | 14388 |
| 029 | 0030  | -0154 B | 3228 B |        | 2599 | 14388 |
| 029 | 0050  | -0160 B | 3246 B |        | 2613 | 14391 |

|              |          |         |    |         |       |            |         |
|--------------|----------|---------|----|---------|-------|------------|---------|
| C-REF-NO C13 | YR 1967  | DEPTH   |    | WAVES 1 | XX    | AIR T 00.4 | VIS     |
| CONS. NO 042 | MONTH 9  | MXSAMPD | 00 | WAVES 2 | XX    | WET B 00.0 | STN 042 |
| LAT 78-060N  | DAY 01   | NO.DPTH | 10 | WND-DIR | 180   | WW-CODE    |         |
| LON 88-120W  | HR 12.9  | W-COLOR |    | WND-SPD | 03    | CLO-TPE    |         |
| MAKSD SQ 261 | C/I 1802 | W-TRNSP |    | BARO    | 988.2 | CLO-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 129 | 0000  | -0093 B | 2414 B |        | 1940 | 14299 |
| 129 | 0002  | -0088 B | 2568 B |        | 2064 | 14323 |
| 129 | 0004  | -0090 B | 2609 B |        | 2097 | 14328 |
| 129 | 0006  | -0086 B | 2713 B |        | 2181 | 14345 |
| 129 | 0008  | -0084 B | 2735 B |        | 2199 | 14349 |
| 129 | 0010  | -0081 B | 2800 B |        | 2251 | 14360 |
| 129 | 0015  | -0077 B | 2920 B |        | 2348 | 14379 |
| 129 | 0020  | -0087 B | 3194 B |        | 2569 | 14413 |
| 129 | 0030  | -0139 B | 3232 B |        | 2602 | 14396 |
| 129 | 0050  | -0138 B | 3273 B |        | 2635 | 14405 |

|              |          |         |    |         |        |            |         |
|--------------|----------|---------|----|---------|--------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T 00.5 | VIS     |
| CONS. NO 043 | MONTH 9  | MXSAMPD | 00 | WAVES 2 | XX     | WET B 00.0 | STN 043 |
| LAT 74-095N  | DAY 02   | NO.DPTH | 10 | WND-DIR | 270    | WW-CODE 26 |         |
| LON 81-170W  | HR 22.5  | W-COLOR |    | WND-SPD | 13     | CLD-TPE    |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP |    | BARO    | 1004.6 | CLD-AMT 9  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 225 | 0000  | 0030 B  | 3129 B |        | 2513 | 14455 |
| 225 | 0002  | 0028 B  | 3119 B |        | 2505 | 14453 |
| 225 | 0004  | 0022 B  | 3133 B |        | 2516 | 14453 |
| 225 | 0006  | 0028 B  | 3133 B |        | 2516 | 14456 |
| 225 | 0008  | 0024 B  | 3141 B |        | 2523 | 14455 |
| 225 | 0010  | 0022 B  | 3141 B |        | 2523 | 14455 |
| 225 | 0015  | 0026 B  | 3137 B |        | 2519 | 14457 |
| 225 | 0020  | -0048 B | 3252 B |        | 2615 | 14440 |
| 225 | 0030  | -0130 B | 3277 B |        | 2638 | 14406 |
| 225 | 0050  | -0139 B | 3303 B |        | 2659 | 14409 |

|              |          |            |             |            |             |         |
|--------------|----------|------------|-------------|------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH      | WAVES 1     | XX         | AIR T -01.0 | VIS     |
| CONS. NO 044 | MONTH 9  | MXSAMPD 00 | WAVES 2     | XX         | WET B -01.5 | STN 044 |
| LAT 73-553N  | DAY 03   | NO.DPTH 10 | WND-DIR 300 | WW-CODE 02 |             |         |
| LON 86-000W  | HR 09.2  | W-COLOR    | WND-SPD 03  | CLD-TPE    |             |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP    | BARO 1000.6 | CLD-AMT    |             | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 092 | 0000  | -0015 B | 3136 B |        | 2520 | 14435 |
| 092 | 0002  | -0011 B | 3152 B |        | 2533 | 14440 |
| 092 | 0004  | -0010 B | 3152 B |        | 2533 | 14441 |
| 092 | 0006  | -0003 B | 3155 B |        | 2535 | 14445 |
| 092 | 0008  | -0010 B | 3162 B |        | 2541 | 14443 |
| 092 | 0010  | -0014 B | 3151 B |        | 2532 | 14440 |
| 092 | 0015  | -0027 B | 3222 B |        | 2590 | 14444 |
| 092 | 0020  | -0047 B | 3263 B |        | 2624 | 14441 |
| 092 | 0030  | -0044 B | 3273 B |        | 2632 | 14446 |
| 092 | 0050  | -0140 B | 3251 B |        | 2617 | 14401 |



|              |          |         |     |              |             |         |
|--------------|----------|---------|-----|--------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   | 541 | WAVES 1 30X1 | AIR T -01.0 | VIS     |
| CONS. NO 045 | MONTH 9  | MXSAMPD | 05  | WAVES 2 XX   | WET B -01.6 | STN 045 |
| LAT 74-092N  | DAY 03   | NO.DPTH | 13  | WND-DIR 300  | WW-CODE 02  |         |
| LON 86-000W  | HR 11.0  | W-COLOR |     | WND-SPD 01   | CLD-TPE     |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP |     | BARO 1000.6  | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 110 | 0000  | -0050 B | 31469 |        | 2530 | 14421 |
| 110 | 0010  | -0050 B | 31460 |        | 2530 | 14422 |
| 110 | 0020  | -0052 B | 31476 |        | 2531 | 14423 |
| 110 | 0030  | -0047 B | 31469 |        | 2530 | 14427 |
| 110 | 0050  | -0146 B | 32326 |        | 2602 | 14396 |
| 110 | 0075  | -0152 B | 32552 |        | 2621 | 14400 |
| 110 | 0100  | -0154 B | 32721 |        | 2634 | 14406 |
| 110 | 0125  | -0151 B | 32846 |        | 2644 | 14413 |
| 110 | 0150  | -0149 B | 32952 |        | 2653 | 14420 |
| 110 | 0175  | -0145 B | 33094 |        | 2664 | 14428 |
| 110 | 0200  | -0144 B | 33152 |        | 2669 | 14433 |
| 110 | 0300  | -0106   | 33737 |        | 2715 | 14476 |
| 110 | 0500  | 0069    | 34346 |        | 2756 | 14598 |

|              |          |            |              |             |         |
|--------------|----------|------------|--------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 541  | WAVES 1 27X1 | AIR T -01.0 | VIS 7   |
| CONS. NO 046 | MONTH 9  | MXSAMPD 00 | WAVES 2 27X1 | WET B -01.6 | STN 046 |
| LAT 74-092N  | DAY 03   | NO.DPTH 10 | WND-DIR 300  | WW-CODE 02  |         |
| LON 86-000W  | HR 11.2  | W-COLOR 10 | WND-SPD 01   | CLD-TPE 0   |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP 15 | BARO 1000.6  | CLD-AMT 5   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 112 | 0000  | -0060 B | 3153 B |        | 2535 | 14417 |
| 112 | 0002  | -0058 B | 3151 B |        | 2534 | 14418 |
| 112 | 0004  | -0055 B | 3151 B |        | 2534 | 14420 |
| 112 | 0006  | -0059 B | 3147 B |        | 2531 | 14418 |
| 112 | 0008  | -0058 B | 3156 B |        | 2538 | 14420 |
| 112 | 0010  | -0058 B | 3156 B |        | 2538 | 14420 |
| 112 | 0015  | -0059 B | 3164 B |        | 2544 | 14421 |
| 112 | 0020  | -0059 B | 3163 B |        | 2544 | 14422 |
| 112 | 0030  | -0066 B | 3163 B |        | 2544 | 14420 |
| 112 | 0050  | -C142 B | 3262 B |        | 2626 | 14402 |

|              |          |         |    |         |    |         |         |
|--------------|----------|---------|----|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 047 | MONTH 9  | MXSAMPD | 00 | WAVES 2 | XX | WET B   | STN 047 |
| LAT 74-250N  | DAY 03   | NO.DPTH | 10 | WND-DIR |    | WW-CODE |         |
| LON 86-000W  | HR 13.5  | W-COLOR |    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 261 | C/I 1802 | W-TRNSP |    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 135 | 0000  | -0053 B | 3159 B |        | 2540 | 14421 |
| 135 | 0002  | -0049 B | 3158 B |        | 2539 | 14423 |
| 135 | 0004  | -0049 B | 3164 B |        | 2544 | 14424 |
| 135 | 0006  | -0049 B | 3162 B |        | 2542 | 14424 |
| 135 | 0008  | -0048 B | 3168 B |        | 2547 | 14426 |
| 135 | 0010  | -0051 B | 3167 B |        | 2546 | 14425 |
| 135 | 0015  | -0080 B | 3199 B |        | 2573 | 14416 |
| 135 | 0020  | -0123 B | 3224 B |        | 2595 | 14401 |
| 135 | 0030  | -0144 B | 3258 B |        | 2623 | 14397 |
| 135 | 0050  | -0150 B | 3281 B |        | 2642 | 14401 |

|              |          |         |     |         |        |             |         |
|--------------|----------|---------|-----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   | 246 | WAVES 1 | XX     | AIR T -00.2 | VIS     |
| CONS. NO 048 | MONTH 9  | MXSAMPD | 02  | WAVES 2 | XX     | WET B -01.5 | STN 048 |
| LAT 74-150N  | DAY 03   | NO.DPTH | 11  | WND-DIR | 180    | WW-CODE 22  |         |
| LON 90-450W  | HR 19.0  | W-COLOR |     | WND-SPD | 01     | CLD-TPE 6   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP |     | BARO    | 1005.1 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SCMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 190 | 0000  | -0100 B | 30404 |        | 2446 | 14382 |
| 190 | 0010  | -0099 B | 30385 |        | 2444 | 14384 |
| 190 | 0020  | -0111 B | 30703 |        | 2470 | 14385 |
| 190 | 0030  | -0113 B | 30807 |        | 2479 | 14387 |
| 190 | 0050  | -0096 B | 32487 |        | 2614 | 14422 |
| 190 | 0075  | -0121 B | 32827 |        | 2642 | 14419 |
| 190 | 0100  | -0134 B | 32933 |        | 2651 | 14418 |
| 190 | 0125  | -0131 B | 33041 |        | 2660 | 14425 |
| 190 | 0157  | -0132 B | 33135 |        | 2667 | 14432 |
| 190 | 0179  | -0126   | 33188 |        | 2671 | 14439 |
| 190 | 0205  | -0118   | 33509 |        | 2697 | 14451 |

|              |          |            |              |             |         |
|--------------|----------|------------|--------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 340  | WAVES 1 29X0 | AIR T -03.5 | VIS     |
| CONS. NO 049 | MONTH 9  | MXSAMPD 03 | WAVES 2 XX   | WET B -04.0 | STN 049 |
| LAT 74-262N  | DAY 05   | NO.DPTH 12 | WND-DIR 290  | WW-CODE 71  |         |
| LON 111-421W | HR 18.3  | W-COLOR    | WND-SPD 01   | CLD-TPE     |         |
| MARSD SQ 264 | C/I 1802 | W-TRNSP    | BARO 1013.9  | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 183 | 0000  | -0150 B | 31711 |        | 2553 | 14377 |
| 183 | 0010  | -0119 B | 31698 |        | 2551 | 14393 |
| 183 | 0020  | -0156 B | 31703 |        | 2552 | 14377 |
| 183 | 0030  | -0146 B | 31954 |        | 2572 | 14387 |
| 183 | 0050  | -0153 B | 32154 |        | 2588 | 14390 |
| 183 | 0075  | -0150 B | 32400 |        | 2608 | 14399 |
| 183 | 0100  | -0141 B | 32838 |        | 2644 | 14414 |
| 183 | 0125  | -0135 B | 33220 |        | 2674 | 14426 |
| 183 | 0150  | -0112 B | 33625 |        | 2706 | 14447 |
| 183 | 0200  | -0056 B | 34185 |        | 2750 | 14489 |
| 183 | 0251  | -0028 B | 34432 |        | 2768 | 14514 |
| 183 | 0266  | -0012   | 34548 |        | 2777 | 14525 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 310  | WAVES 1 XX  | AIR T -01.5 | VIS 1   |
| CONS. NO 050 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -03.5 | STN 050 |
| LAT 74-262N  | DAY 05   | NO.DPTH 10 | WND-DIR 270 | WW-CODE 71  |         |
| LON 111-421W | HR 18.5  | W-COLOR    | WND-SPD 01  | CLD-TPE     |         |
| MARSD SQ 264 | C/I 1802 | W-TRNSP    | BARO 1013.9 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 185 | 0000  | -0137 B | 3151 B |        | 2536 | 14380 |
| 185 | 0002  | -0161 B | 3156 B |        | 2541 | 14370 |
| 185 | 0004  | -0161 B | 3167 B |        | 2549 | 14372 |
| 185 | 0006  | -0140 B | 3167 B |        | 2549 | 14382 |
| 185 | 0008  | -0142 B | 3171 B |        | 2552 | 14382 |
| 185 | 0010  | -0146 B | 3171 B |        | 2552 | 14381 |
| 185 | 0015  | -0142 B | 3173 B |        | 2554 | 14384 |
| 185 | 0020  | -0145 B | 3171 B |        | 2552 | 14383 |
| 185 | 0030  | -0142 B | 3195 B |        | 2572 | 14389 |
| 185 | 0050  | -0142 B | 3216 B |        | 2589 | 14395 |



|              |          |            |              |             |         |
|--------------|----------|------------|--------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 453  | WAVES 1 00X0 | AIR T -03.5 | VIS     |
| CONS. NO 051 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX   | WET B -04.0 | STN 051 |
| LAT 74-200N  | DAY 05   | NO.DPTH 10 | WND-DIR CALM | WW-CODE 71  |         |
| LON 111-480W | HR 21.1  | W-COLOR    | WND-SPD 00   | CLD-TPE     |         |
| MARSD SQ 264 | C/I 1802 | W-TRNSP    | BARO 1014.5  | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 211 | 0000  | -0126 B | 3017 B |        | 2427 | 14367 |
| 211 | 0002  | -0136 B | 3033 B |        | 2441 | 14365 |
| 211 | 0004  | -0129 B | 3055 B |        | 2458 | 14371 |
| 211 | 0006  | -0139 B | 3101 B |        | 2496 | 14374 |
| 211 | 0008  | -0132 B | 3114 B |        | 2506 | 14379 |
| 211 | 0010  | -0139 B | 3128 B |        | 2517 | 14378 |
| 211 | 0015  | -0130 B | 3144 B |        | 2530 | 14385 |
| 211 | 0020  | -0126 B | 3157 B |        | 2541 | 14390 |
| 211 | 0030  | -0120 B | 3182 B |        | 2561 | 14398 |
| 211 | 0050  | -0138 B | 3206 B |        | 2581 | 14396 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 453  | WAVES 1 XX  | AIR T -03.5 | VIS     |
| CONS. NO 052 | MONTH 9  | MXSAMPD 04 | WAVES 2 XX  | WET B -04.0 | STN 052 |
| LAT 74-200N  | DAY 05   | NO.DPTH 13 | WND-DIR 360 | WW-CODE 71  |         |
| LON 111-480W | HR 21.6  | W-COLOR    | WND-SPD 01  | CLD-TPE     |         |
| MARSD SQ 264 | C/I 1802 | W-TRNSP    | BARO 1014.5 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 216 | 0000  | -0130 B | 30594 |        | 2462 | 14371 |
| 216 | 0010  | -0130 B | 31103 |        | 2503 | 14380 |
| 216 | 0020  | -0127 B | 31445 |        | 2531 | 14388 |
| 216 | 0030  | -0120 B | 31751 |        | 2555 | 14397 |
| 216 | 0050  | -0149 B | 31996 |        | 2576 | 14390 |
| 216 | 0075  | -0154 B | 32227 |        | 2594 | 14395 |
| 216 | 0100  | -0141 B | 32574 |        | 2622 | 14410 |
| 216 | 0125  | -0137 B | 33103 |        | 2665 | 14423 |
| 216 | 0150  | -0120 B | 33530 |        | 2699 | 14442 |
| 216 | 0200  | -0051 B | 34231 |        | 2753 | 14492 |
| 216 | 0257  | -0015 B | 34534 |        | 2776 | 14522 |
| 216 | 0301  | 0009    | 34696 |        | 2788 | 14543 |
| 216 | 0396  | 0032    | 34822 |        | 2797 | 14571 |

|              |          |            |             |    |             |         |
|--------------|----------|------------|-------------|----|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 530  | WAVES 1     | XX | AIR T -03.2 | VIS     |
| CONS. NO 053 | MONTH 9  | MXSAMPD 05 | WAVES 2     | XX | WET B -03.5 | STV C53 |
| LAT 74-130N  | DAY 06   | NO.DPTH 13 | WND-DIR     |    | WW-CODE     |         |
| LON 111-120W | HR 04.0  | W-COLOR    | WND-SPD     |    | CLD-TPE     |         |
| MARSD SQ 264 | C/I 1802 | W-TRNSP    | BARO 1015.0 |    | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 040 | 0000  | -0150 B | 31279 |        | 2518 | 14371 |
| 040 | 0010  | -0142 B | 31293 |        | 2519 | 14377 |
| 040 | 0020  | -0145 B | 31657 |        | 2548 | 14382 |
| 040 | 0030  | -0149 B | 31852 |        | 2564 | 14385 |
| 040 | 0050  | -0155 B | 32001 |        | 2576 | 14387 |
| 040 | 0075  | -0157 B | 32141 |        | 2588 | 14392 |
| 040 | 0100  | -0144 B | 32467 |        | 2614 | 14407 |
| 040 | 0125  | -0140 B | 32963 |        | 2654 | 14420 |
| 040 | 0150  | -0129 B | 33368 |        | 2686 | 14435 |
| 040 | 0200  | -0074 B | 34077 |        | 2742 | 14479 |
| 040 | 0256  | -0019 B | 34513 |        | 2774 | 14520 |
| 040 | 0308  | 0034    | 34839 |        | 2798 | 14557 |
| 040 | 0509  | 0018    | 34777 |        | 2794 | 14582 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 534  | WAVES 1 XX  | AIR T -03.2 | VIS 7   |
| CONS. NO 054 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -03.5 | STN 054 |
| LAT 74-130N  | DAY 06   | NO.DPTH 10 | WND-DIR 310 | WW-CODE 71  |         |
| LON 111-120W | HR 04.5  | W-COLOR    | WND-SPD 02  | CLD-TPE 7   |         |
| MARSD SQ 264 | C/I 1802 | W-TRNSP    | BARO 1015.0 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 045 | 0000  | -0129 B | 3110 B |        | 2503 | 14379 |
| 045 | 0002  | -0149 B | 3126 B |        | 2516 | 14372 |
| 045 | 0004  | -0137 B | 3144 B |        | 2530 | 14380 |
| 045 | 0006  | -0145 B | 3144 B |        | 2531 | 14377 |
| 045 | 0008  | -0137 B | 3144 B |        | 2530 | 14381 |
| 045 | 0010  | -0106 B | 3169 B |        | 2550 | 14399 |
| 045 | 0015  | -0139 B | 3175 B |        | 2555 | 14385 |
| 045 | 0020  | -0141 B | 3181 B |        | 2560 | 14386 |
| 045 | 0030  | -0134 B | 3199 B |        | 2575 | 14394 |
| 045 | 0050  | -0146 B | 3217 B |        | 2590 | 14394 |

|              |          |            |             |            |             |         |
|--------------|----------|------------|-------------|------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH      | WAVES 1     | XX         | AIR T -04.0 | VIS 7   |
| CONS. NO 055 | MONTH 9  | MXSAMPD 00 | WAVES 2     | XX         | WET B -04.9 | STN 055 |
| LAT 74-430N  | DAY 06   | NO.DPTH 10 | WND-DIR 030 | WW-CODE 00 |             |         |
| LON 108-370W | HR 20.4  | W-COLOR    | WND-SPD 02  | CLD-TPE 1  |             |         |
| MARSD SQ 263 | C/I 1802 | W-TRNSP    | BARO 1022.7 | CLD-AMT 3  | HW          |         |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 204 | 0000  | -0139 B | 3077 B |        | 2476 | 14369 |
| 204 | 0002  | -0133 B | 3112 B |        | 2504 | 14377 |
| 204 | 0004  | -0137 B | 3123 B |        | 2513 | 14377 |
| 204 | 0006  | -0135 B | 3123 B |        | 2513 | 14378 |
| 204 | 0008  | -0125 B | 3164 B |        | 2546 | 14389 |
| 204 | 0010  | -0122 B | 3177 B |        | 2557 | 14393 |
| 204 | 0015  | -0128 B | 3157 B |        | 2541 | 14388 |
| 204 | 0020  | -0115 B | 3176 B |        | 2556 | 14398 |
| 204 | 0030  | -0128 B | 3188 B |        | 2566 | 14395 |
| 204 | 0050  | -0146 B | 3225 B |        | 2596 | 14395 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 173  | WAVES 1 XX  | AIR T -00.2 | VIS 7   |
| CONS. NO 056 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -02.5 | STN 056 |
| LAT 74-545N  | DAY 06   | NO.DPTH 10 | WND-DIR 320 | WW-CODE 01  |         |
| LON 108-420W | HR 22.0  | W-COLOR    | WND-SPD 01  | CLD-TPE     |         |
| MARSD SQ 263 | C/I 1802 | W-TRNSP    | BARO 1021.5 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 220 | 0000  | -0124 B | 3168 B |        | 2549 | 14389 |
| 220 | 0002  | -0122 B | 3168 B |        | 2549 | 14390 |
| 220 | 0004  | -0125 B | 3158 B |        | 2541 | 14388 |
| 220 | 0006  | -0123 B | 3171 B |        | 2552 | 14391 |
| 220 | 0008  | -0127 B | 3170 B |        | 2551 | 14389 |
| 220 | 0010  | -0128 B | 3170 B |        | 2551 | 14389 |
| 220 | 0015  | -0121 B | 3178 B |        | 2557 | 14394 |
| 220 | 0020  | -0126 B | 3175 B |        | 2555 | 14392 |
| 220 | 0030  | -0139 B | 3200 B |        | 2576 | 14391 |
| 220 | 0050  | -0142 B | 3214 B |        | 2587 | 14395 |



|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 210  | WAVES 1 XX  | AIR T 01.1  | VIS 7   |
| CONS. NO 057 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -00.1 | STN 057 |
| LAT 74-360N  | DAY 07   | NO.DPTH 10 | WND-DIR 100 | WW-CODE 22  |         |
| LON 104-300W | HR 13.5  | W-COLOR    | WND-SPD 02  | CLD-TPE X   |         |
| MARSD SQ 263 | C/I 1802 | W-TRNSP    | BARO 1024.7 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 135 | 0000  | -0135 B | 3022 B |        | 2432 | 14363 |
| 135 | 0002  | -0138 B | 3039 B |        | 2445 | 14365 |
| 135 | 0004  | -0131 B | 3014 B |        | 2425 | 14365 |
| 135 | 0006  | -0140 B | 3021 B |        | 2431 | 14362 |
| 135 | 0008  | -0146 B | 3073 B |        | 2473 | 14367 |
| 135 | 0010  | -0141 B | 3073 B |        | 2473 | 14369 |
| 135 | 0015  | -0133 B | 3085 B |        | 2483 | 14376 |
| 135 | 0020  | -0126 B | 3101 B |        | 2495 | 14382 |
| 135 | 0030  | -0126 B | 3199 B |        | 2575 | 14397 |
| 135 | 0050  | -0153 B | 3220 B |        | 2592 | 14391 |

|              |          |         |     |         |        |         |       |         |
|--------------|----------|---------|-----|---------|--------|---------|-------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   | 210 | WAVES 1 | XX     | AIR T   | 01.1  | VIS     |
| CONS. NO 058 | MONTH 9  | MXSAMPD | 02  | WAVES 2 | XX     | WET B   | -00.1 | STN 058 |
| LAT 74-36CN  | DAY 07   | NO.DPTH | 10  | WND-DIR | 100    | WW-CODE | 22    |         |
| LON 104-300W | HR 13.9  | W-COLOR |     | WND-SPD | 02     | CLD-TPE | 7     |         |
| MARSD SQ 263 | C/I 1802 | W-TRNSP |     | BARO    | 1024.7 | CLD-AMT | 8     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 139 | 0000  |         | 29836 |        |      |       |
| 139 | 0010  | -0135 B | 30326 |        | 2440 | 14366 |
| 139 | 0020  | -0122 B | 30021 |        | 2415 | 14370 |
| 139 | 0030  | -0129 B | 31764 |        | 2556 | 14393 |
| 139 | 0050  | -0161 B | 32068 |        | 2582 | 14385 |
| 139 | 0075  | -0147 B | 32312 |        | 2601 | 14399 |
| 139 | 0100  | -0143 B | 32706 |        | 2633 | 14411 |
| 139 | 0125  | -0134 B | 33106 |        | 2665 | 14425 |
| 139 | 0150  | -0118 B | 33538 |        | 2700 | 14443 |
| 139 | 0175  | -0085 B | 33891 |        | 2727 | 14467 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 281  | WAVES 1 XX  | AIR T -03.1 | VIS 7   |
| CONS. NO 059 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -04.5 | STN 059 |
| LAT 74-520N  | DAY 07   | NO.DPTH 10 | WND-DIR 360 | WW-CODE 15  |         |
| LON 97-080W  | HR 18.9  | W-COLOR    | WND-SPD 01  | CLD-TPE 7   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1017.0 | CLD-AMT 6   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 189 | 0000  | -0150 B | 3093 B |        | 2489 | 14366 |
| 189 | 0002  | -0150 B | 3095 B |        | 2491 | 14367 |
| 189 | 0004  | -0148 B | 3095 B |        | 2491 | 14368 |
| 189 | 0006  | -0150 B | 3102 B |        | 2497 | 14368 |
| 189 | 0008  | -0148 B | 3104 B |        | 2498 | 14370 |
| 189 | 0010  | -0148 B | 3104 B |        | 2498 | 14370 |
| 189 | 0015  | -0102 B | 3183 B |        | 2561 | 14404 |
| 189 | 0020  | -0096 B | 3198 B |        | 2573 | 14410 |
| 189 | 0030  | -0096 B | 3250 B |        | 2615 | 14419 |
| 189 | 0050  | -0104 B | 3270 B |        | 2631 | 14421 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 160  | WAVES 1 XX  | AIR T -01.5 | VIS     |
| CONS. NO 060 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -04.8 | STN 060 |
| LAT 74-193N  | DAY 08   | NO.DPTH 10 | WND-DIR 210 | WW-CODE 70  |         |
| LON 97-160W  | HR 22.8  | W-COLOR    | WND-SPD 03  | CLD-TPE     |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1017.5 | CLD-AMT     | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 228 | 0000  | -0155 B | 3030 B |        | 2438 | 14355 |
| 228 | 0002  | -0153 B | 3038 B |        | 2445 | 14357 |
| 228 | 0004  | -0154 B | 3038 B |        | 2445 | 14357 |
| 228 | 0006  | -0158 B | 3038 B |        | 2445 | 14356 |
| 228 | 0008  | -0159 B | 3038 B |        | 2445 | 14356 |
| 228 | 0010  | -0158 B | 3045 B |        | 2451 | 14357 |
| 228 | 0015  | -0160 B | 3053 B |        | 2457 | 14358 |
| 228 | 0020  | -0158 B | 3053 B |        | 2457 | 14360 |
| 228 | 0030  | -0150 B | 3103 B |        | 2497 | 14373 |
| 228 | 0050  | -0150 B | 3226 B |        | 2597 | 14393 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 160  | WAVES 1 XX  | AIR T -01.5 | VIS     |
| CONS. NO 061 | MONTH 9  | MXSAMPD 02 | WAVES 2 XX  | WET B -04.8 | STN 061 |
| LAT 74-193N  | DAY 08   | NO.DPTH 10 | WND-DIR     | WW-CODE 70  |         |
| LON 97-160W  | HR 23.2  | W-COLOR    | WND-SPD     | CLD-TPE 7   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1017.5 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 232 | 0000  |         | 30432 |        |      |       |
| 232 | 0010  | -0151 B | 30398 |        | 2446 | 14360 |
| 232 | 0020  | -0163 B | 30440 |        | 2450 | 14356 |
| 232 | 0030  | -0150 B | 31013 |        | 2496 | 14372 |
| 232 | 0050  | -0149 B | 32123 |        | 2586 | 14392 |
| 232 | 0075  | -0143 B | 32583 |        | 2623 | 14405 |
| 232 | 0100  | -0125 B | 33107 |        | 2665 | 14425 |
| 232 | 0125  | -0121 B | 33222 |        | 2674 | 14433 |
| 232 | 0150  | -0119 B | 33284 |        | 2679 | 14439 |
| 232 | 0175  | -0124 B | 33313 |        | 2682 | 14441 |

\*DEPTH OF BOTTOM OBSERVATION GREATER THAN SOUNDING

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 164  | WAVES 1 XX  | AIR T 00.0  | VIS     |
| CONS. NO 062 | MONTH 9  | MXSAMPD 01 | WAVES 2 XX  | WET B -03.7 | STN 062 |
| LAT 74-565N  | DAY 09   | NO.DPTH 9  | WND-DIR     | WW-CODE 51  |         |
| LON 92-330W  | HR 13.5  | W-COLOR    | WND-SPD     | CLD-TPE 7   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1011.7 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 135 | 0000  | -0139 B | 30447 |        | 2450 | 14365 |
| 135 | 0010  | -0115 B | 31056 |        | 2499 | 14386 |
| 135 | 0020  | -0073 B | 31787 |        | 2557 | 14418 |
| 135 | 0030  | -0094 B | 32268 |        | 2596 | 14416 |
| 135 | 0050  | -0090 B | 32538 |        | 2618 | 14425 |
| 135 | 0075  | -0096 B | 32690 |        | 2630 | 14429 |
| 135 | 0100  | -0121 B | 32865 |        | 2645 | 14424 |
| 135 | 0125  | -0137 B | 32998 |        | 2656 | 14422 |
| 135 | 0150  | -0134 B | 33134 |        | 2667 | 14429 |



|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 164  | WAVES 1 XX  | AIR T 00.0  | VIS 1   |
| CONS. NO 063 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -03.7 | STN 063 |
| LAT 74-565N  | DAY 09   | NO.DPTH 10 | WND-DIR 340 | WW-CODE 51  |         |
| LON 92-330W  | HR 13.7  | W-COLOR    | WND-SPD 03  | CLD-TPE 7   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1011.7 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 137 | 0000  | -0139 B | 3041 B |        | 2447 | 14364 |
| 137 | 0002  | -0124 B | 3041 B |        | 2447 | 14372 |
| 137 | 0004  | -0144 B | 3052 B |        | 2456 | 14364 |
| 137 | 0006  | -0152 B | 3060 B |        | 2463 | 14362 |
| 137 | 0008  | -0149 B | 3062 B |        | 2464 | 14364 |
| 137 | 0010  | -0126 B | 3103 B |        | 2497 | 14381 |
| 137 | 0015  | -0096 B | 3153 B |        | 2537 | 14403 |
| 137 | 0020  | -0066 B | 3187 B |        | 2563 | 14422 |
| 137 | 0030  | -0063 B | 3239 B |        | 2605 | 14432 |
| 137 | 0050  | -0080 B | 3275 B |        | 2635 | 14433 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 148  | WAVES 1 XX  | AIR T -03.3 | VIS     |
| CONS. NO 064 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -04.3 | STN 064 |
| LAT 74-570N  | DAY 09   | NO.DPTH 10 | WND-DIR 030 | WW-CODE 85  |         |
| LON 92-140W  | HR 15.2  | W-COLOR    | WND-SPD 05  | CLD-TPE 7   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1009.3 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 152 | 0000  | -0109 B | 3117 B |        | 2508 | 14389 |
| 152 | 0002  | -0103 B | 3128 B |        | 2517 | 14394 |
| 152 | 0004  | -0110 B | 3128 B |        | 2517 | 14391 |
| 152 | 0006  | -0080 B | 3164 B |        | 2545 | 14410 |
| 152 | 0008  | -0080 B | 3183 B |        | 2560 | 14413 |
| 152 | 0010  | -0078 B | 3216 B |        | 2587 | 14419 |
| 152 | 0015  | -0080 B | 3239 B |        | 2606 | 14422 |
| 152 | 0020  | -0084 B | 3252 B |        | 2616 | 14423 |
| 152 | 0030  | -0093 B | 3274 B |        | 2634 | 14423 |
| 152 | 0050  | -0083 B | 3284 B |        | 2642 | 14433 |

|              |          |            |             |             |         |
|--------------|----------|------------|-------------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 212  | WAVES 1 XX  | AIR T -03.3 | VIS     |
| CONS. NO 065 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B -04.3 | STN 065 |
| LAT 74-542N  | DAY 09   | NO.DPTH 10 | WND-DIR 360 | WW-CODE 03  |         |
| LON 93-120W  | HR 16.8  | W-COLOR    | WND-SPD 06  | CLD-TPE 0   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1006.4 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 168 | 0000  | -0154 B | 3093 B |        | 2489 | 14364 |
| 168 | 0002  | -0154 B | 3102 B |        | 2497 | 14366 |
| 168 | 0004  | -0154 B | 3102 B |        | 2497 | 14366 |
| 168 | 0006  | -0154 B | 3093 B |        | 2489 | 14365 |
| 168 | 0008  | -0135 B | 3117 B |        | 2508 | 14378 |
| 168 | 0010  | -0131 B | 3122 B |        | 2512 | 14381 |
| 168 | 0015  | -0126 B | 3137 B |        | 2524 | 14386 |
| 168 | 0020  | -0128 B | 3138 B |        | 2525 | 14386 |
| 168 | 0030  | -0091 B | 3185 B |        | 2562 | 14412 |
| 168 | 0048  | -0070 B | 3237 B |        | 2604 | 14432 |

|              |          |         |    |         |        |             |         |
|--------------|----------|---------|----|---------|--------|-------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH   |    | WAVES 1 | XX     | AIR T -03.5 | VIS     |
| CONS. NO 066 | MONTH 9  | MXSAMPD | 00 | WAVES 2 | XX     | WET B -04.0 | STN 066 |
| LAT 74-35CN  | DAY 09   | NO.DPTH | 10 | WND-DIR | 360    | WW-CODE 26  |         |
| LON 93-390W  | HR 19.5  | W-COLOR |    | WND-SPD | 04     | CLD-TPE 0   |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP |    | BARO    | 1011.6 | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 195 | 0000  | -0126 B | 2971 B |        | 2390 | 14361 |
| 195 | 0002  | -0139 B | 3008 B |        | 2420 | 14360 |
| 195 | 0004  | -0144 B | 3032 B |        | 2440 | 14361 |
| 195 | 0006  | -0144 B | 3014 B |        | 2425 | 14359 |
| 195 | 0008  | -0144 B | 3018 B |        | 2429 | 14360 |
| 195 | 0010  | -0144 B | 3033 B |        | 2441 | 14362 |
| 195 | 0015  | -0110 B | 3093 B |        | 2489 | 14388 |
| 195 | 0020  | -0105 B | 3126 B |        | 2515 | 14395 |
| 195 | 0030  | -0066 B | 3168 B |        | 2548 | 14421 |
| 195 | 0050  | -0075 B | 3232 B |        | 2600 | 14429 |

|              |          |            |         |    |         |         |
|--------------|----------|------------|---------|----|---------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 171  | WAVES 1 | XX | AIR T   | VIS     |
| CONS. NO 067 | MONTH 9  | MXSAMPD 00 | WAVES 2 | XX | WET B   | STN 067 |
| LAT 74-350N  | DAY 09   | NO.DPTH 10 | WND-DIR |    | WW-CODE |         |
| LON 93-390W  | HR 21.8  | W-COLOR    | WND-SPD |    | CLD-TPE |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO    |    | CLD-AMT | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 218 | 0000  | -0139 B | 3029 B |        | 2437 | 14362 |
| 218 | 0002  | -0150 B | 3038 B |        | 2445 | 14359 |
| 218 | 0004  | -0150 B | 3038 B |        | 2445 | 14359 |
| 218 | 0006  | -0150 B | 3038 B |        | 2445 | 14359 |
| 218 | 0008  | -0153 B | 3048 B |        | 2453 | 14360 |
| 218 | 0010  | -0150 B | 3048 B |        | 2453 | 14362 |
| 218 | 0015  | -0112 B | 3110 B |        | 2502 | 14389 |
| 218 | 0020  | -0114 B | 3169 B |        | 2550 | 14397 |
| 218 | 0030  | -0096 B | 3207 B |        | 2580 | 14413 |
| 218 | 0050  | -0085 B | 3252 B |        | 2616 | 14427 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 013 | YR 1967  | DEPTH 182  | WAVES 1 XX  | AIR T 03.5 | VIS     |
| CONS. NO 068 | MONTH 9  | MXSAMPD 00 | WAVES 2 XX  | WET B 03.2 | STN 068 |
| LAT 74-143N  | DAY 09   | NO.DPTH 10 | WND-DIR 340 | WW-CODE 02 |         |
| LON 93-430W  | HR 23.1  | W-COLOR    | WND-SPD 03  | CLD-TPE 7  |         |
| MARSD SQ 262 | C/I 1802 | W-TRNSP    | BARO 1010.6 | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND |
|-----|-------|---------|--------|--------|------|-------|
| 231 | 0000  | -0140 B | 2933 B |        | 2360 | 14349 |
| 231 | 0002  | -0142 B | 2955 B |        | 2378 | 14351 |
| 231 | 0004  | -0141 B | 2984 B |        | 2401 | 14356 |
| 231 | 0006  | -0139 B | 3008 B |        | 2420 | 14360 |
| 231 | 0008  | -0147 B | 3029 B |        | 2438 | 14360 |
| 231 | 0010  | -0156 B | 3063 B |        | 2465 | 14361 |
| 231 | 0015  | -0154 B | 3067 B |        | 2468 | 14363 |
| 231 | 0020  | -0154 B | 3067 B |        | 2468 | 14364 |
| 231 | 0030  | -0144 B | 3069 B |        | 2470 | 14371 |
| 231 | 0050  | -0135 B | 3224 B |        | 2595 | 14400 |



## SECTION 1V

### Bathythermograms

#### Hudson Bay and Hudson Strait

The bathythermograph used had been calibrated in February 1967 but a grid with graduations below  $-1^{\circ}\text{C}$  was not available. The grid used was graduated at intervals of one degree and five meters.

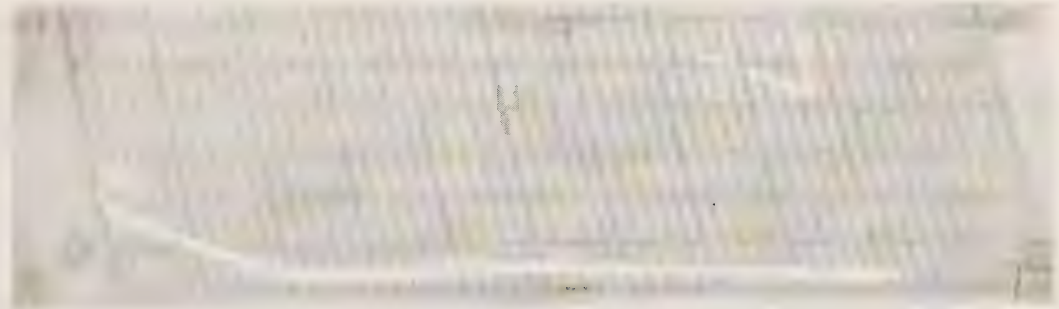


Table 1 A copy of the machine listing of the bathythermograph lowerings made in "Labrador" in Hudson Bay and Strait indicating the consec slide number, latitude, longitude, day, month, year and the GMT of the observation.

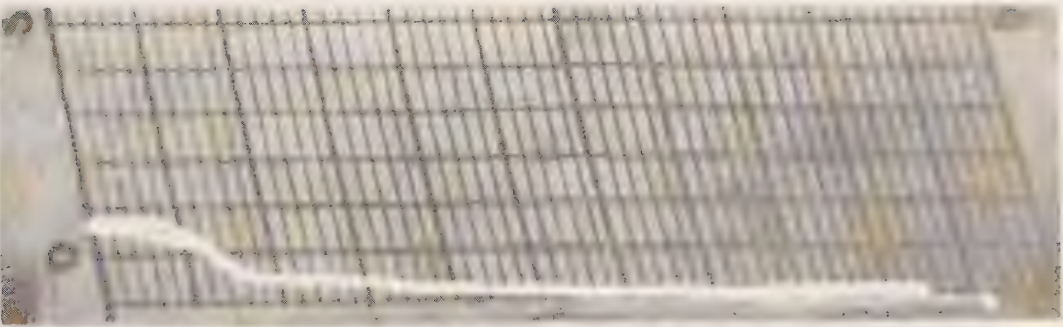
| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |
| 001       | 62  | 30  | 070  | 40  | 21   | 07  | 67 | 23  | 00  |
| 002       | 62  | 19  | 071  | 04  | 22   | 07  | 67 | 00  | 50  |
| 003       | 64  | 06  | 075  | 41  | 23   | 07  | 67 | 23  | 34  |
| 004       | 63  | 40  | 075  | 41  | 24   | 07  | 67 | 01  | 44  |
| 005       | 63  | 06  | 076  | 08  | 24   | 07  | 67 | 05  | 30  |
| 006       | 63  | 04  | 078  | 00  | 24   | 07  | 67 | 11  | 13  |
| 007       | 62  | 52  | 078  | 00  | 24   | 07  | 67 | 12  | 30  |
| 008       | 62  | 46  | 078  | 00  | 24   | 07  | 67 | 13  | 20  |
| 009       | 62  | 38  | 078  | 00  | 24   | 07  | 67 | 14  | 19  |
| 010       | 62  | 16  | 079  | 02  | 24   | 07  | 67 | 18  | 16  |
| 011       | 61  | 26  | 078  | 10  | 24   | 07  | 67 | 22  | 46  |
| 012       | 61  | 26  | 078  | 50  | 25   | 07  | 67 | 00  | 47  |
| 013       | 61  | 25  | 079  | 42  | 25   | 07  | 67 | 03  | 51  |
| 014       | 61  | 26  | 080  | 43  | 25   | 07  | 67 | 07  | 25  |
| 015       | 61  | 37  | 081  | 23  | 25   | 07  | 67 | 09  | 42  |
| 016       | 61  | 00  | 082  | 00  | 25   | 07  | 67 | 13  | 54  |
| 017       | 60  | 31  | 082  | 00  | 25   | 07  | 67 | 17  | 00  |
| 018       | 60  | 00  | 082  | 00  | 25   | 07  | 67 | 20  | 04  |
| 019       | 60  | 00  | 083  | 00  | 25   | 07  | 67 | 23  | 10  |
| 020       | 60  | 00  | 084  | 00  | 26   | 07  | 67 | 02  | 25  |
| 021       | 60  | 00  | 085  | 00  | 26   | 07  | 67 | 05  | 45  |
| 022       | 60  | 30  | 085  | 00  | 26   | 07  | 67 | 08  | 55  |

Table 1 (continued)

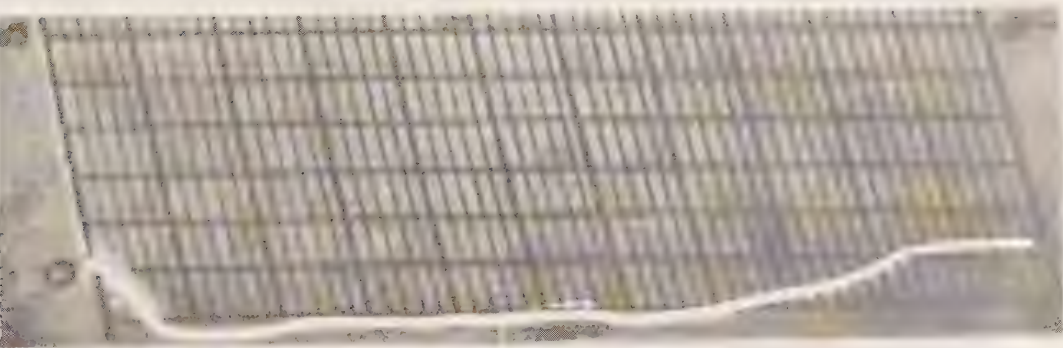
| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |
| 023       | 61  | 00  | 085  | 00  | 26   | 07  | 67 | 12  | 05  |
| 024       | 61  | 30  | 085  | 00  | 26   | 07  | 67 | 15  | 20  |
| 025       | 62  | 00  | 084  | 00  | 26   | 07  | 67 | 18  | 30  |
| 026       | 61  | 58  | 082  | 08  | 26   | 07  | 67 | 20  | 27  |
| 027       | 61  | 58  | 082  | 32  | 26   | 07  | 67 | 22  | 03  |
| 028       | 61  | 48  | 082  | 00  | 26   | 07  | 67 | 23  | 38  |
| 029       | 62  | 34  | 080  | 50  | 27   | 07  | 67 | 04  | 40  |
| 030       | 62  | 26  | 076  | 00  | 27   | 07  | 67 | 16  | 15  |
| 031       | 61  | 56  | 071  | 55  | 30   | 07  | 67 | 19  | 56  |
| 032       | 62  | 04  | 071  | 35  | 30   | 07  | 67 | 21  | 12  |



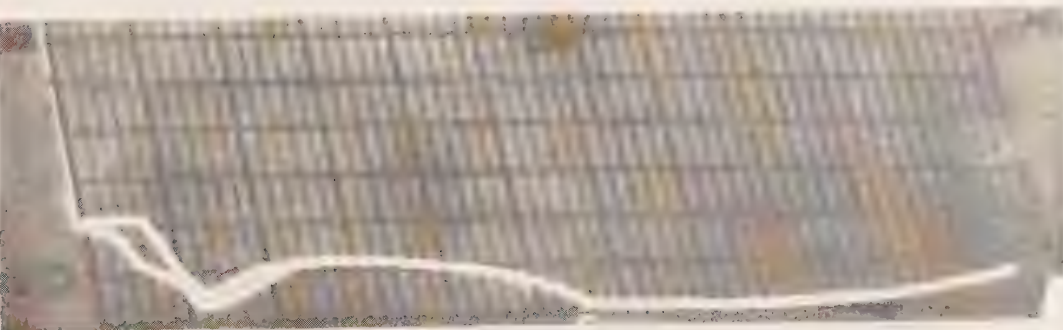
4



3



2



1

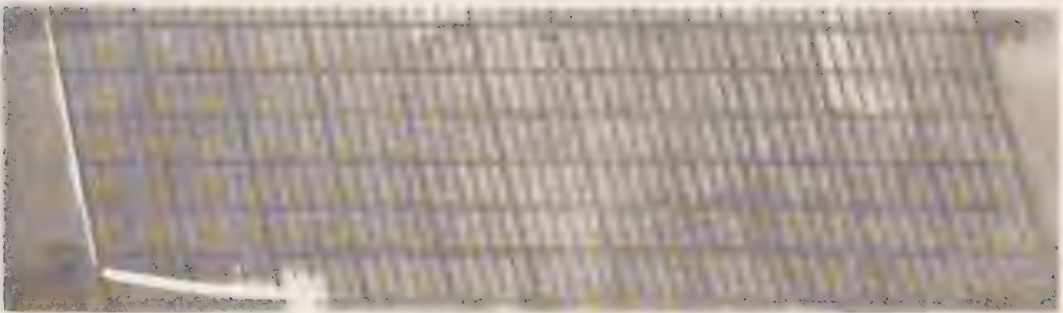
0 25 50 75 100 125 150 175 200 225 250 275



8



7



6



5





12



11



10



9



16



15



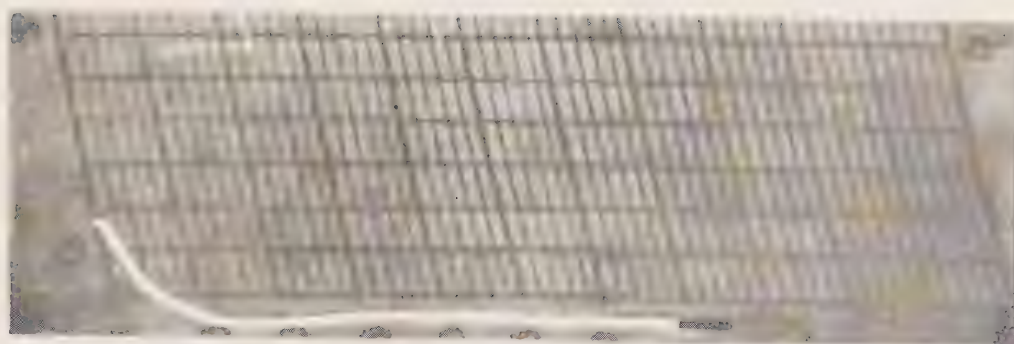
14



13



20



19



18



17





24



23



22



21



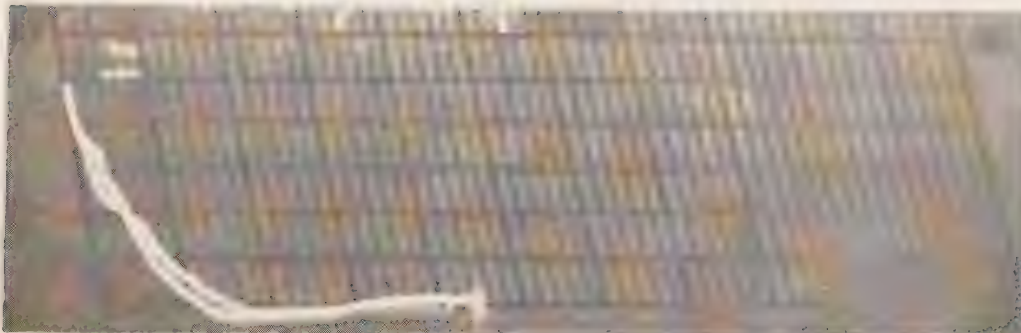
28



27



26



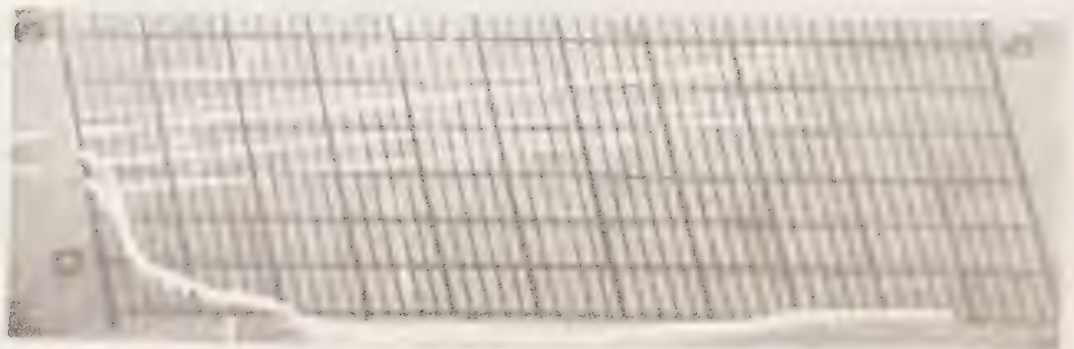
25



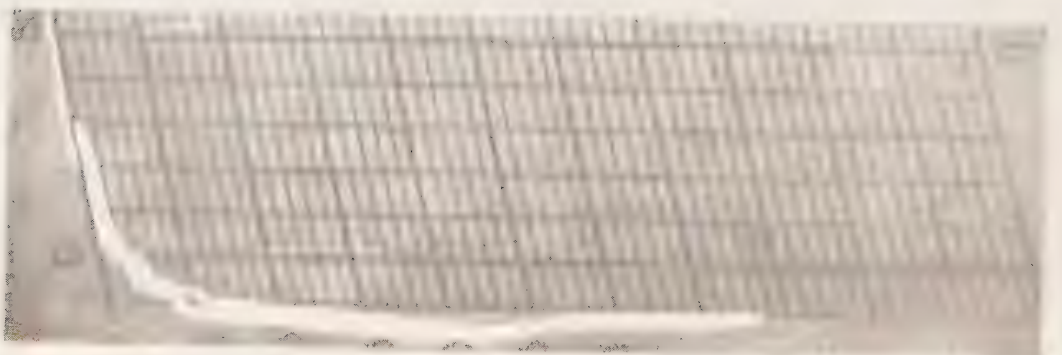
32



31



30



29



SECTION V

Bathythermograms

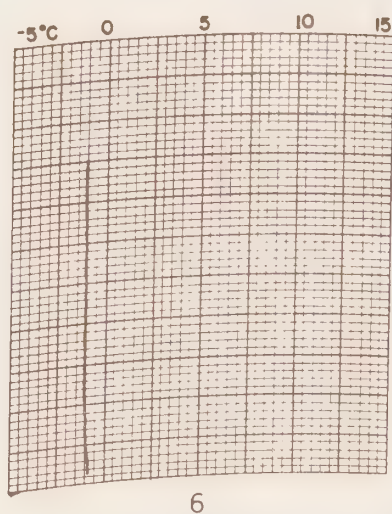
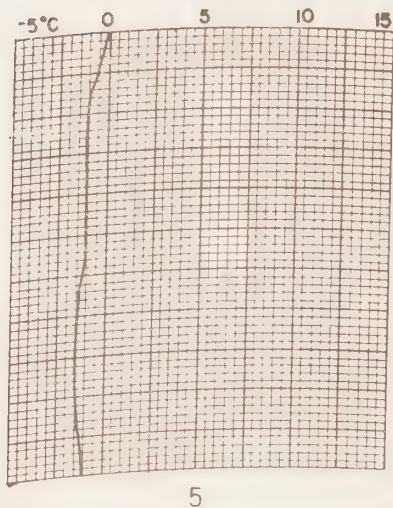
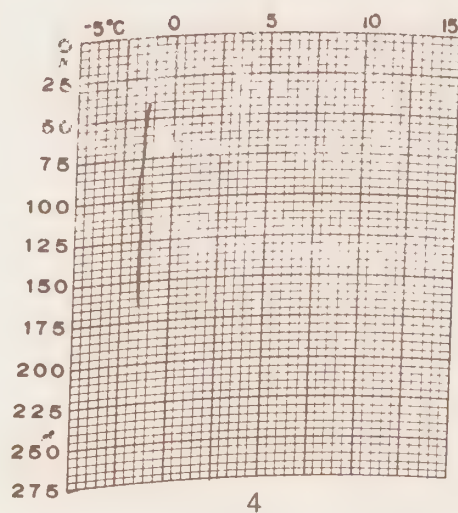
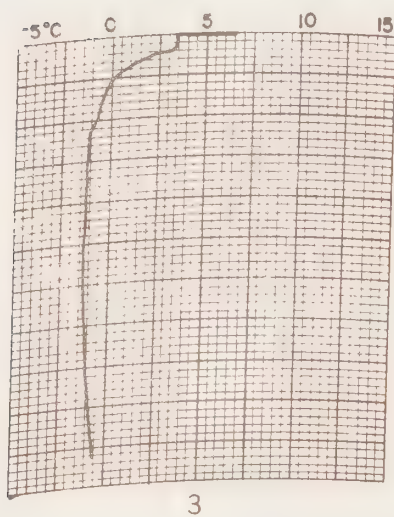
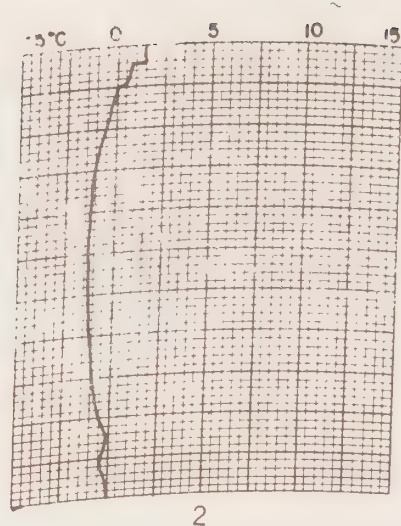
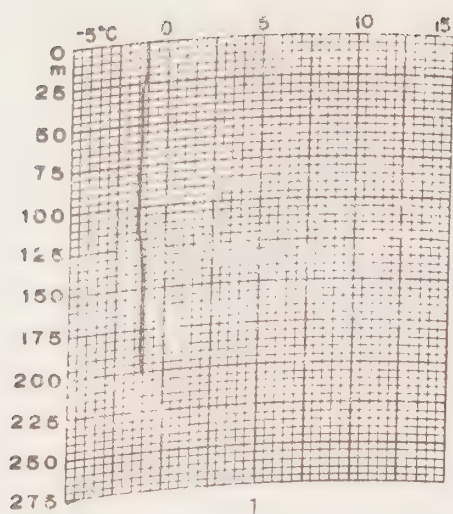
Arctic

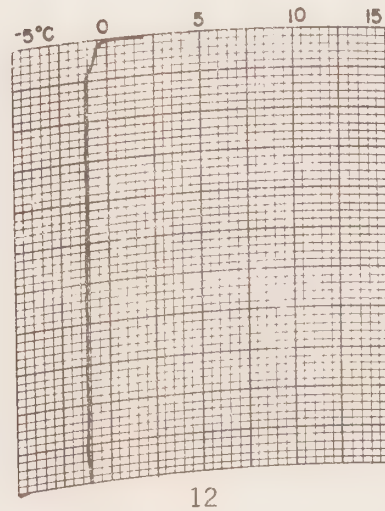
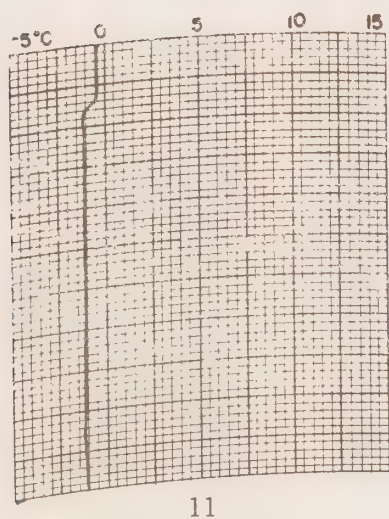
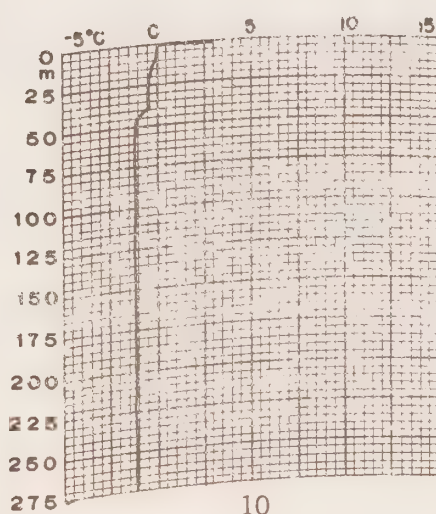
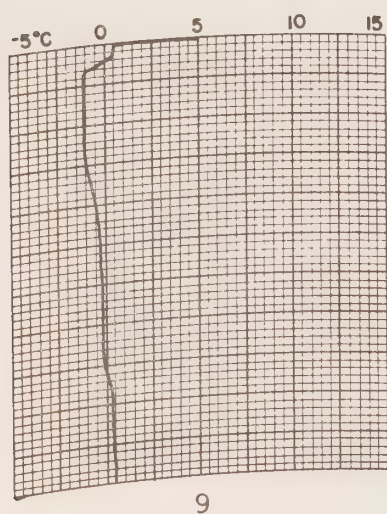
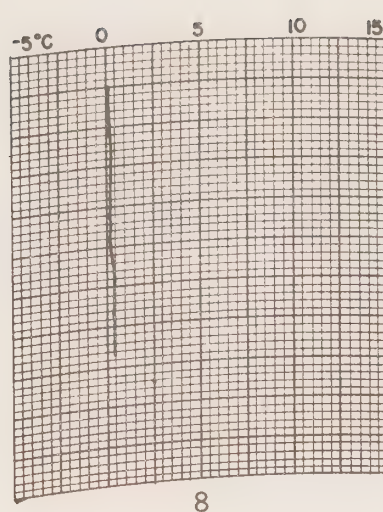
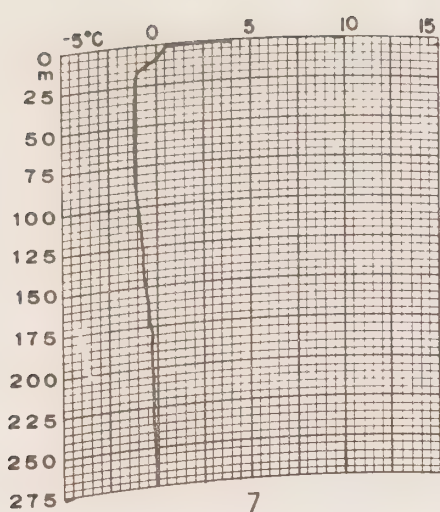
(ICE PACK 8/67)



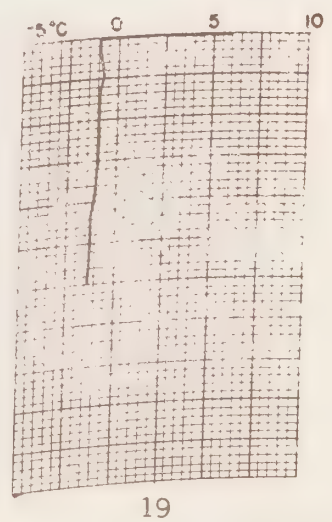
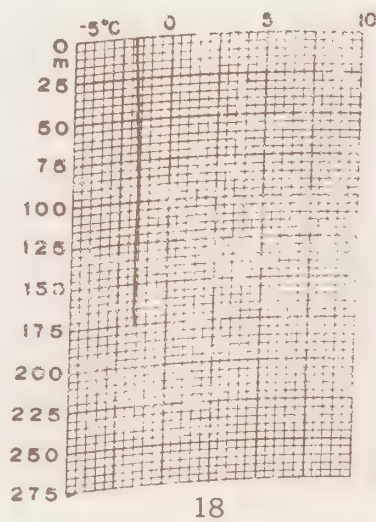
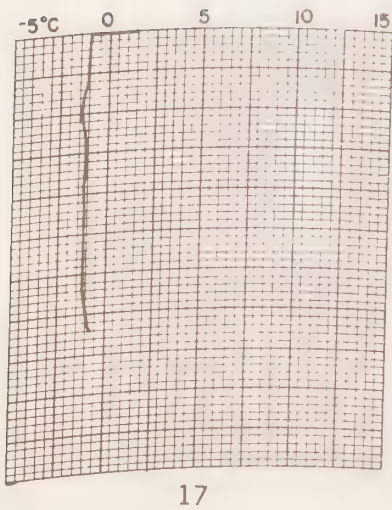
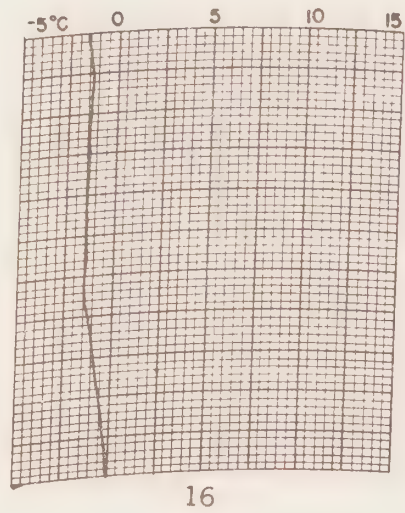
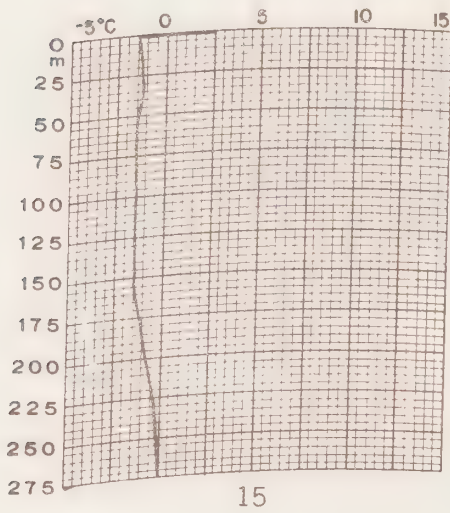
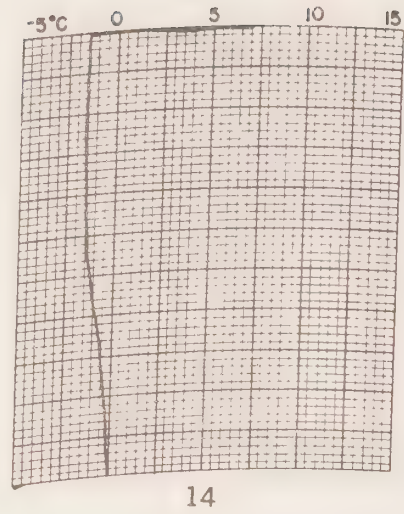
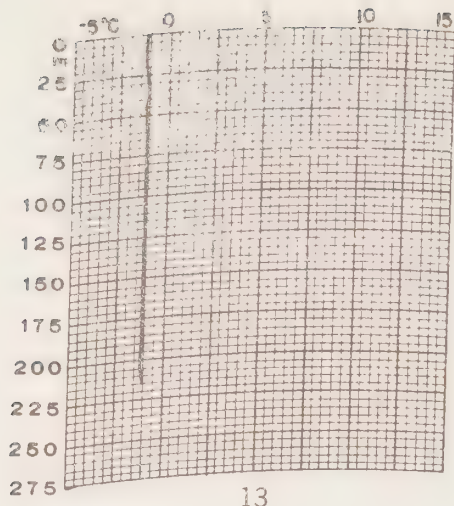
Table 2 A listing of consec number and consec slide number for ICE PACK 8/67. The sign, +, indicates that the data tabulated at the consec number were obtained using reversing bottles and thermometers; the sign, -, indicates a consec number where the "in situ" unit was used to obtain comparison data.

| <u>Consec number</u> | <u>Consec slide</u> | <u>Consec number</u> | <u>Consec slide</u> |
|----------------------|---------------------|----------------------|---------------------|
| 1+                   | 1                   | 35                   |                     |
|                      |                     | 36                   |                     |
| 2+                   | 2                   | 37                   |                     |
|                      |                     | 38                   |                     |
| 3+                   | 3                   | 39                   |                     |
|                      |                     | 40                   |                     |
| 4+                   | 4                   | 41                   |                     |
|                      |                     | 42                   |                     |
| 5                    |                     | 43                   |                     |
| 6                    |                     | 44                   | 10                  |
| 7                    |                     | 45+                  | 11                  |
| 8                    |                     | 46-                  |                     |
| 9+                   | 5                   | 47                   | 12                  |
| 10+                  | 6                   | 48+                  | 13                  |
| 11+                  |                     | 49+                  |                     |
| 12+                  | 7                   | 50-                  | 14                  |
| 13+                  | 8                   | 51-                  | 15                  |
| 14                   |                     | 52+                  |                     |
| 15                   |                     | 53+                  | 16                  |
| 16                   |                     | 54-                  |                     |
| 17                   |                     | 55                   |                     |
| 18                   |                     | 56                   |                     |
| 19                   |                     | 57-                  | 17                  |
| 20-                  | 9                   | 58+                  |                     |
| 21+                  |                     | 59                   |                     |
| 22                   |                     | 60-                  | 18                  |
| 23                   |                     | 61+                  |                     |
| 24                   |                     | 62+                  | 19                  |
| 25                   |                     | 63-                  |                     |
| 26                   |                     | 64                   |                     |
| 27                   |                     | 65                   |                     |
| 28                   |                     | 66                   |                     |
| 29                   |                     | 67                   |                     |
| 30                   |                     | 68                   |                     |
| 31                   |                     |                      |                     |
| 32                   |                     |                      |                     |
| 33                   |                     |                      |                     |
| 34                   |                     |                      |                     |











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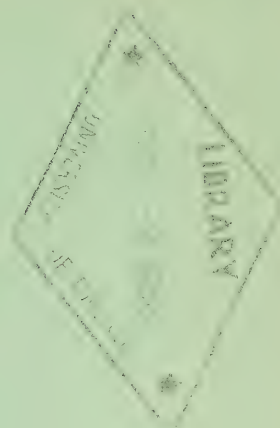
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PRINTED PUBLICATIONS OF THE CANADIAN OCEANOGRAPHIC DATA CENTRE  
IN THE 1968 DATA RECORD SERIES

| NO. | TITLE  | CODC REFERENCE         |
|-----|--|------------------------|
| 1   | Stanwell - Fletcher Lake, Somerset<br>Island, N.W.T. 1965-1966 | 07-65-002<br>07-66-002 |
| 2   | Ocean Weather Station "P"                                      | 02-67-001<br>02-67-002 |
| 3   | Gulf of St. Lawrence   | 10-67-008              |





# OCEAN WEATHER STATION 'P' NORTH PACIFIC OCEAN

April 7 to July 6, 1967

No. 5

1968 Data Record Series

Canadian Oceanographic Data Centre

Programmed by the  
Canadian Committee on Oceanography

1968

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# **OCEAN WEATHER STATION 'P'**

## **NORTH PACIFIC OCEAN**

**April 7 to July 6, 1967**

**CODC References: 02-67-003  
02-67-004**

**No. 5**

**1968 Data Record Series**

**Canadian Oceanographic Data Centre**  
**615 Booth St., Ottawa, Canada**

**Programmed by the Canadian Committee on Oceanography**



FISHERIES RESEARCH BOARD OF CANADA

Ocean Weather Station "P" North Pacific Ocean

|                            |                      |                     |
|----------------------------|----------------------|---------------------|
| Ships:                     | CCGS "Vancouver"     | CCGS "Stonetown"    |
| Local cruise designations: | P-67-2               | Patrol No. 74       |
| Cruise periods:            | April 7-May 25, 1967 | May 19-July 6, 1967 |
| Scientist-in-Charge:       | D.G. Robertson       |                     |
| Observers:                 | R.H. Bigham          | Ship's crew         |

Pacific Oceanographic Group, Nanaimo, B.C.



## SECTION I

Description of data collection procedures







Figure 1.

The Canadian Weather Ship CCGS "Vancouver"

Photo by  
Canadian Hydrographic Service  
Victoria, B.C.





Figure 2.

The Canadian Westhersh ship C.C.G.S. "Stonetown".

( D.O.T. Photo )

Bathythermograph soundings boom can be seen below the bridge on the signal deck.



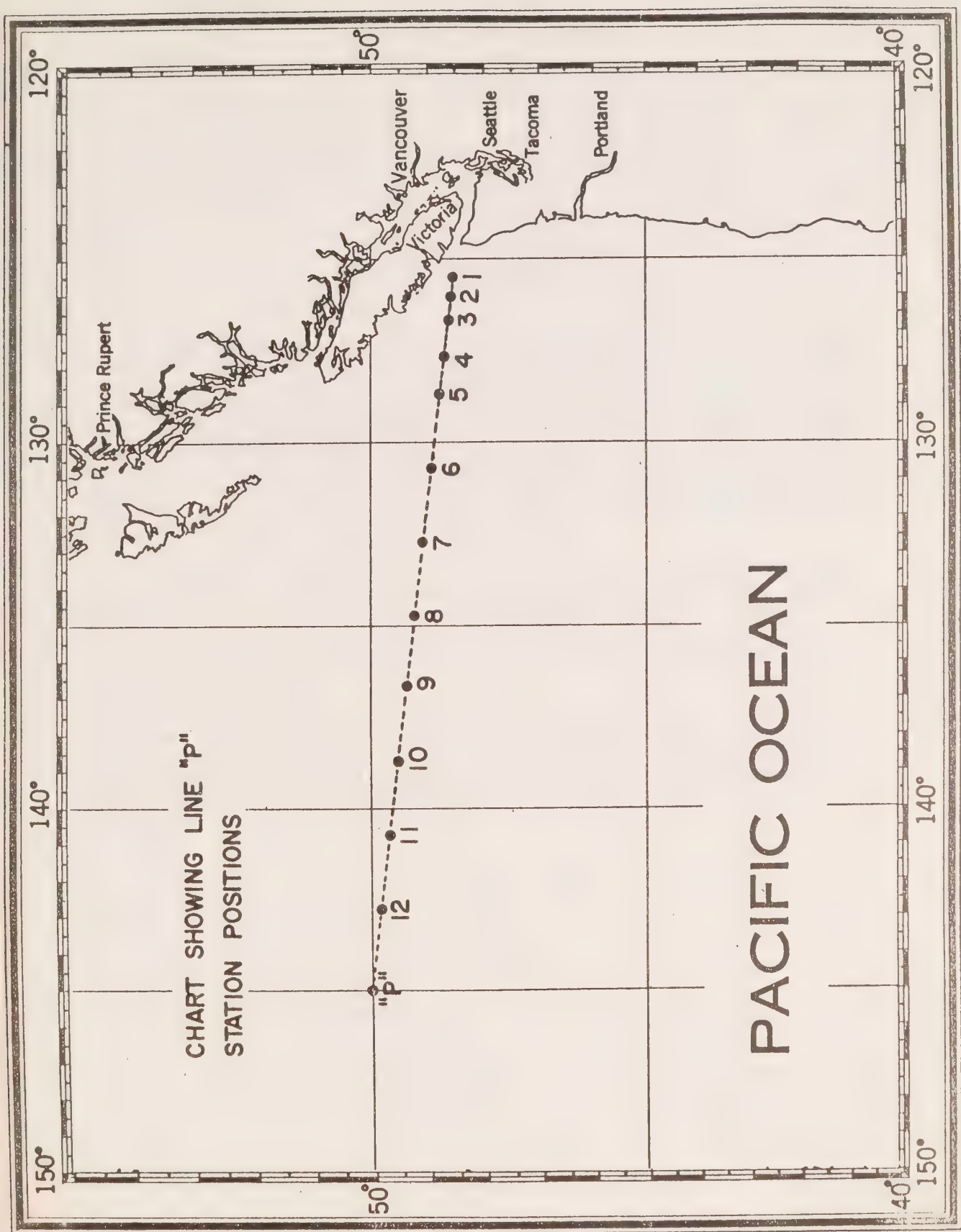


Figure 3.





## INTRODUCTION

Canadian operation of Ocean Weather Station "P" (latitude 50°00'N, longitude 145°00'W) was inaugurated in December 1950. The Station is manned by two vessels operated by the Marine Services Branch of the Department of Transport. They are the CCGS "Vancouver" and the CCGS "Stonetown" (Fig. 1 and 2). Each ship remains on Station for a period of 6 weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch. The chief purpose of the Station is to operate as a meteorological station for surface and upper-air observations, and as an air-sea rescue station.

The CCGS "Vancouver" is completely equipped with deck and laboratory facilities required to make bathythermograph and oceanographic observations. Oceanographers from the Pacific Oceanographic Group accompany the ship on each patrol. The CCGS "Stonetown" is equipped with bathythermograph equipment only. The BT observations on both ships are made by members of the ship's crew.

Bathythermograph observations have been made at Station "P" since July 1952. A program of oceanographic observations was commenced in August 1956, and it has been increased and altered to suit the requirements for new and additional information.

CRUISE LOG, CCGS "VANCOUVER", SURVEY P-67-2

- April 7: departed from Esquimalt, B.C.; BT observations made enroute to Station P.
- April 10: rendezvous with CCGS "Stonetown".
- April 26: because of problems encountered in using the new oceanographic deck equipment the first oceanographic station was not observed until this date. 8 stations were observed during the patrol at Station P; some plankton and productivity observations were made.
- May 12: relieved by CCGS "Stonetown" and proceeded on the return journey; 8 oceanographic stations were observed on Line P. A total of 314 BT observations were made by the ship's crew during the patrol.
- May 25: docked at Esquimalt base.

OBSERVATIONAL PROCEDURES

During survey P-67-2, water samples and temperatures were obtained at depth with Nansen water sample bottles equipped with either Richter and Wiese or Yoshino reversing thermometers. Surface samples (0 m) were obtained in a one-gallon rubber bucket. The surface temperature was measured in this bucket with a thermometer graduated in 0.5 C intervals.

Station locations were determined by the officers of the watch, who also made the meteorological observations reported with the oceanographic data.

### LABORATORY PROCEDURES

The salinity determinations of the oceanographic station samples from Survey P-67-2, and of the daily surface samples taken in conjunction with the BT observations from both ships, were made with an inductive salinometer, Model 601 MK III, Auto-Lab Industries. Most of the oceanographic station samples were analysed on board "Vancouver". The salinity data are the means of duplicate determinations, and are considered to have an accuracy at the 35‰ salinity level of  $\pm 0.003\%$  (Brown and Hamon, 1961).

The conversions from conductivity ratio to salinity were made from tables supplied by the manufacturer of the salinometer. These tables are derived from the report by Thomas, Thompson and Utterback (J. Cons. Vol. 9, 1934) and from calculations made by A.P. Francischetti, U.S. Intl. Ice Patrol.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Strickland and Parsons, 1965). The data are the means of duplicate determinations.

### BATHYTHERMOGRAPH OBSERVATIONS

BT observations to 275 m depth were made from "Vancouver" every 3 hours during the patrol, and also on the return journey to the base. The "Stonetown" made 18 BT observations during the journey to Station P, and took 289 observations to 275 m every 3 hours whilst on station, only missing 3 days. No BT observations were made on the ingoing trip.

The bathythermograms have been prepared by the Canadian Oceanographic Data Centre in their BT-aperture card format (Sauer, 1964), and copies are available from the Centre. The bathythermograms presented in Section IV of this data record were reproduced from the BT-aperture cards. The consecutive number entered below each bathythermogram refers to an entry in Table 1 or Table 2 which list the information concerning time/date, position, and associated meteorological information.

PERSONNEL

The scientist-in-charge of the Station "P" program was Mr. D.G. Robertson. The oceanographer on board "Vancouver" during survey P-67-2 was Mr. R.H. Bigham. The master of the ship was Captain J.H. Lingard. The ships' crews made the BT observations.

## SECTION II

Description of the machine-generated data record





## INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch-cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. When interpolations are carried out, additional derived values are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an **"estimate of precision"** for each observed variable selected for interpolation at standard oceanographic depths. The precision depends on the instrument and/or technique used to determine the variable. A standard precision stated as a **standard deviation** ( $\sigma$ ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under **"GENERAL INFORMATION"** in section III of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e.,  $1\sigma = A$ ,  $2\sigma = B$ , etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an **"interpolation error estimate"** derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of the interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable ( $T$ ,  $S$ ,  $O_2$ ) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the **"measurement error estimate"** comprises the **"combined measurement and interpolation error estimate"**. It is expressed as a multiple of the standard deviation of measurement ( $\sigma$ ) under normal routine field conditions by:

## CANADIAN OCEANOGRAPHIC DATA CENTRE

| 1 IDENT. CODE  |  | 2 LATITUDE (N=+)  |  | 3 LONGITUDE (W=+)   |  | 5 DATE  |  | 6 TIME  |  | 7 DEPTH   |  | 9 NO. DEPTHS OBS'D.   |  | VESEL   |  |   |  |  |  |  |  |  |  |
|--|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|--|--|--|--|--|--|
| COUNTRY INST.  |  | DEG. MIN. 1/10  |  | DEG. MIN. 1/10  |  | YEAR MONTH DAY  |  | HOURS G.M.T. 1/10   |  | TO BOTTOM   |  | OBS'D.  |  | ENTERED BY  |  |   |  |  |  |  |  |  |  |
| 1 8  |  |   |  |   |  |   |  |   |  |   |  |   |  | CHECKED BY  |  |   |  |  |  |  |  |  |  |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15  |  | 19 20 21 22 23 24 25 26 27 28 29 30 31  |  | 34 35   |  |   |  |   |  |   |  |   |  |   |  |   |  |  |  |  |  |  |  |
| 10 WATER   |  | 11 WAVES I  |  | 12 WAVES II   |  | 13 WIND   |  | 14 BAROMETER  |  | 15 AIR TEMP.  |  | 16 WET BULS   |  | 17 W.W. CODE  |  |   |  |  |  |  |  |  |  |
| COLOUR TRANS.  |  | DW DPW HW   |  | DW DPW HW   |  | DIR.  |  | FOOT  |  | 18 CLOUD  |  | 19 HOURS AFTER H.W.   |  | 20 UNASSIGNED   |  |   |  |  |  |  |  |  |  |
| 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  | 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  |  |  |  |  |  |  |
| 6 TIME   |  | 7 DEPTH OF SAMPLE   |  | 8 TEMPERATURE   |  | 9 SALINITY  |  | 10 OXYGEN   |  | 13 PO <sub>4</sub> - P  |  | 14 TOTAL - P  |  | 15 NO <sub>2</sub> - N  |  | 16 NO <sub>3</sub> - N  |  | 17 SiO <sub>3</sub> - Si                           |  | 18 P.H.  |  | 24   |  |
| HOURS G.M.T. 1/10  |  | e   |  | e   |  | d/e   |  | e   |  | e   |  | e   |  | e   |  | e   |  | e  |  | e  |  | e  |  |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20   |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46  |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 |  | 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 |  |
| OBSERVED CARD  |  | COLUMNS 1-24 AS ON MASTER   |  | COLUMNS 1-24 AS ON MASTER   |  | COLUMNS 1-24 AS ON MASTER   |  | COLUMNS 1-24 AS ON MASTER   |  | COLUMNS 1-24 AS ON MASTER   |  | COLUMNS 1-24 AS ON MASTER   |  | COLUMNS 1-24 AS ON MASTER   |  | COLUMNS 1-24 AS ON MASTER   |  | COLUMNS 1-24 AS ON MASTER                          |  | COLUMNS 1-24 AS ON MASTER                          |  | COLUMNS 1-24 AS ON MASTER                          |  |

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left( \frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

$\sigma$  = Standard deviation of the combined error estimates at standard oceanographic depth,

$\Delta V_i$  = the interpolation error estimate of variable "V" at standard oceanographic depth =  $^{1/3} (\bar{V}_{i_1} - V_{i_2})$

$\gamma$  = Interpolation polynomial coefficient.

$Z_j$  = Observed depth.

$Z_i$  = Standard oceanographic depth, such that:  $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction  $\frac{\sigma_i}{\sigma}$ , if  $\geq 2$ , is reported in this Data Record following the interpolated variable. It represents the combined measurement and interpolation error estimate. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the interpolation error estimate is given only when  $\frac{\sigma_i}{\sigma} \geq 2$  (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

## EXPLANATION OF DATA RECORD HEADINGS

## MASTER HEADINGS

|              |           |               |              |              |          |
|--------------|-----------|---------------|--------------|--------------|----------|
| (1) C-REF-NO | (6) YR    | (11) DEPTH    | (16) WAVES 1 | (21) AIR T   | (26) VIS |
| (2) CONS. NO | (7) MONTH | (12) MXSAMPD  | (17) WAVES 2 | (22) WET B   | (27) STN |
| (3) LAT      | (8) DAY   | (13) NO. DPTH | (18) WND-DIR | (23) ww-CODE |          |
| (4) LON      | (9) HR    | (14) W-COLOR  | (19) WND-FCE | (24) CLD-TPE |          |
| (5) MARSD SQ | (10) C/I  | (15) W-TRNSP  | (20) BARO    | (25) CLD-AMT | (28) HW  |

## (1) CRUISE REFERENCE NUMBER:

Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the CRN was a number designated by CODC.

## (2) CONSECUTIVE NUMBER:

Indicates the chronological order in which the stations were occupied.

## (3) LATITUDE:

Indicate the position of the platform at the time of observation.

## (4) LONGITUDE:

## (5) MARSDEN SQUARE: Designates the geographic area code of the observation (see Marsden square chart).

## (6) YEAR:

## (7) MONTH:

## (8) DAY:

## (9) HOUR:

The time (Greenwich Mean Time) at which the surface environmental data were recorded. It is reported to tenths of hours (Table 1).  
If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.

## (10) COUNTRY/INSTITUTE:

The International Geophysical Year (IGY) Country Code/Institute Code - see Table 11.

## (11) DEPTH:

The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section III. Charted depths are preceded by the letter "C".

## (12) MAXIMUM

SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).

00 m - 50 m = 00

51 m - 150 m = 01

151 m - 250 m = 02

etc.



- (13) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch-cards).
- (14) WATER COLOUR: A code based on the percentage of yellow (see table 2 and Note under FIELD "15" below).
- (15) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section III of the data record will state which method was used.
- (16) WAVES 1  
( $d_W d_W P_W H_W$ -code): The direction, period and height of the **wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (17) WAVES 2  
( $d_W d_W P_W H_W$ -code): The direction, period and height of the predominant **non-wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (18) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing (wind direction 990 means:—wind variable or direction unknown).
- (19) WIND FORCE  
(WND-FCE): Beaufort notation (See Table 6).
- WIND SPEED  
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section III.
- (20) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section III of the data record will state the type of instrument used.
- (21) AIR TEMPERATURE: In degrees Celsius.
- (22) WET BULB: In degrees Celsius.
- (23) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (24) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (25) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (26) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (27) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (28) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

## OBSERVED DATA HEADINGS

|           |            |          |             |             |              |
|-----------|------------|----------|-------------|-------------|--------------|
| (1) GMT   | (2) DEPTH  | (3) TEMP | (4) SAL     | (5) OXYGEN  | (6) SGMT     |
| (7) SOUND | (8) $PO_4$ | (9) -P-  | (10) $NO_2$ | (11) $NO_3$ | (12) $SiO_2$ |
|           |            |          |             | (13) pH.    |              |

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

- (1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.
- When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.
- (2) DEPTH: The depth in metres at the reversal time of deepest cast.
- (3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of section III. An alphabetical character following the temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.
- (4) SALINITY: Salinity as defined by:  $S = 0.03 + 1.805 C1\%$ , reported in:
- 1/100 parts per 1000, or
  - 1/1000 parts per 1000.
- In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3).
- In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.
- (5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).
- (6) SIGMA-T: The specific gravity anomaly as defined by:  $(\text{Specific gravity} - 1) \times 10^3$  (e.g.,  $\sigma_t$  reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).
- (7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.



- (8)  $\text{PO}_4$  Phosphate-Phosphorus reported to hundredths of microgram-atoms per litre.
- (9) -P- Total Phosphorus reported to hundredths of microgram-atoms per litre.
- (10)  $\text{NO}_2$  Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre -- No dissolved nitrogen included --
- (11)  $\text{NO}_3$  Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.
- (12)  $\text{SiO}_2$  Silicate-Silicon reported in whole microgram-atoms per litre.
- (13) pH The pH value.

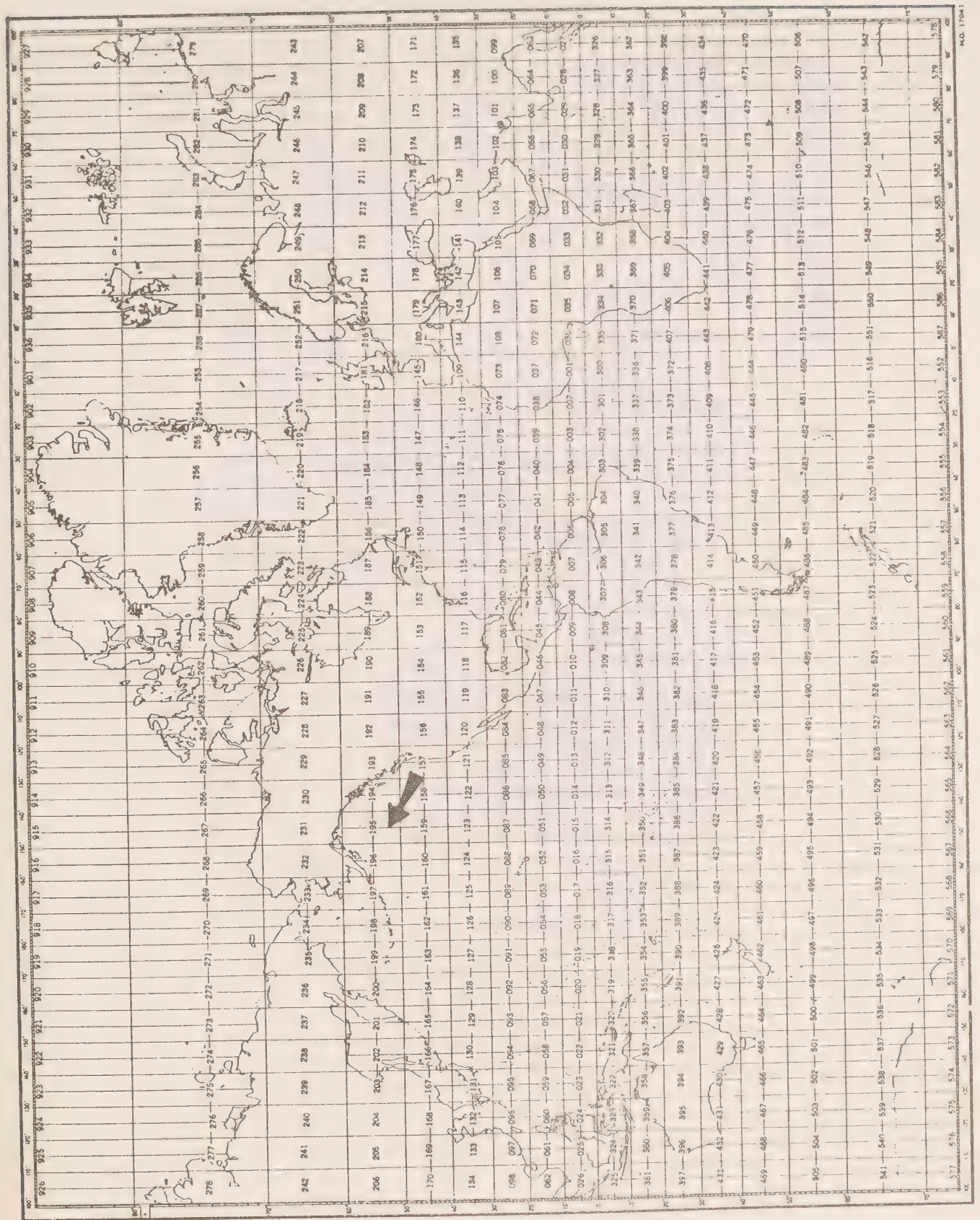
NOTE: "TRC" (trace) is reported when a chemical entry has a value less than the standard deviation of measurement for that particular variable.

#### INTERPOLATED DATA HEADINGS

- |             |            |          |            |          |           |
|-------------|------------|----------|------------|----------|-----------|
| (1) DEPTH   | (2) TEMP   | (3) SAL  | (4) OXYGEN | (5) SGMT | (6) SOUND |
| (7) DELTA-D | (8) POT-EN | (9) SVA. |            |          |           |

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the combined measurement and interpolation error estimate (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY:
- A. The reported salinity values are measured to three decimal places.
    - (i) the interpolation error estimate is less than twice the standard deviation of measurement
      - the interpolated value is reported to three decimal places (e.g., 30.139).
    - (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
      - the interpolated value is reported to two decimal places, and followed by the interpolation error estimate (e.g., 29.23 C).
  - B. The reported salinity values are measured to two decimal places and followed by the measurement error estimate.
    - the interpolated value is reported to two decimal places, and followed by the combined measurement and interpolation error estimate (e.g., 30.59 B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the combined measurement and interpolation error estimate (see "Introduction" to section II of the data record).

- (5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.
- (6) SOUND VELOCITY: Computed from temperature, salinity and total pressure values at standard oceanographic depth, using Wilson's formula (1960).
- (7) DELTA-D: The geo-potential anomaly as defined by:
- $$\Delta D = \int_0^p \delta dp$$
- $\Delta D$  is expressed in dynamic metres ( $10^5$  ergs/gram) and recorded to three decimal places (e.g., 2.345 dyn. metres).
- (8) POTENTIAL ENERGY ANOMALY: The Potential energy anomaly  $\chi$  as defined by:
- $$\chi = 1/g \int_0^p p \delta dp = \int_0^z \rho p \delta dz$$
- $\chi$  is expressed in units of  $10^8$  ergs/cm<sup>2</sup> and recorded to two decimal places (e.g., 116.44).
- (9) SPECIFIC VOLUME ANOMALY: The specific volume anomaly as defined by:
- $$\delta = \alpha - \alpha_{35.0.p}$$
- $\delta$  is expressed in ml/gr, and conventionally reported as  $10^5 \delta$ , to one decimal place (i.e.,  $\delta$  reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).



MARS DEN SQUARE CHART

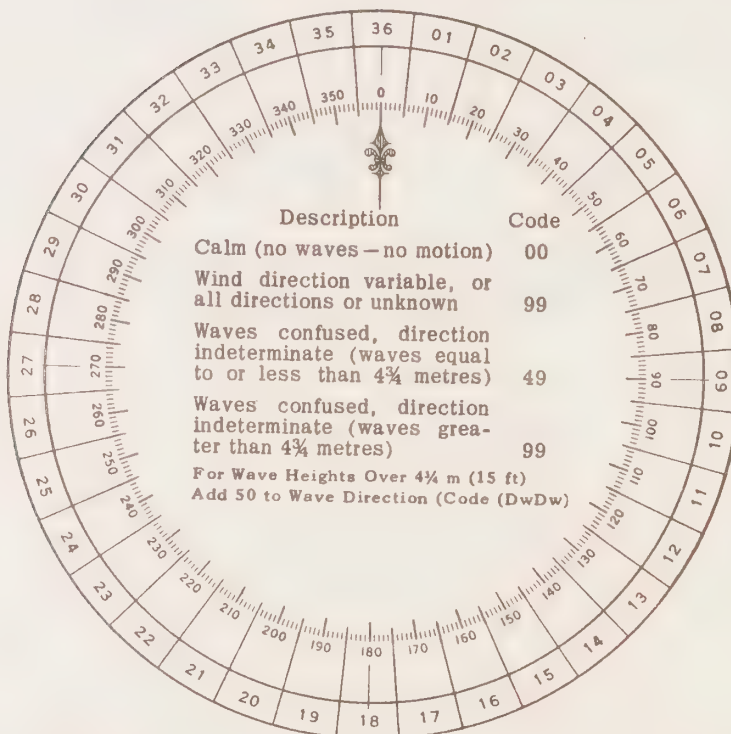
**Table 1**  
**CONVERSION**  
**MINUTES TO  $\frac{1}{4}$  HRS.**

| Minutes | Tenths Hrs.  |
|---------|--------------|
| 00-03   | 0            |
| 04-08   | 1            |
| 09-15   | 2            |
| 16-20   | 3            |
| 21-27   | 4            |
| 28-32   | 5            |
| 33-39   | 6            |
| 40-44   | 7            |
| 45-51   | 8            |
| 52-56   | 9            |
| 57-59   | 0 (next HR.) |

**Table 2**  
**WATER COLOR CODE**  
**Based on Percentage Yellow**

| Code: | Description     |
|-------|-----------------|
| 00    | Deep Blue       |
| 10    | Blue            |
| 20    | Greenish Blue   |
| 30    | Bluish Green    |
| 40    | Green           |
| 50    | Light Green     |
| 60    | Yellowish Green |
| 70    | Yellow Green    |
| 80    | Green Yellow    |
| 90    | Greenish Yellow |
| 99    | Yellow          |

**Table 3. DIRECTION CODE (dd)**



**NOTE:**

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.



**Table 4. PERIOD OF THE WAVES (Pw)**  
(Measure to the Nearest Second)

| Code: | Period in Seconds: | Code: | Period in Seconds:             |
|-------|--------------------|-------|--------------------------------|
| 2     | 5 sec. or less     | 8     | 16 or 17 sec.                  |
| 3     | 6 or 7 sec.        | 9     | 18 or 19 sec.                  |
| 4     | 8 or 9 sec.        | 0     | 20 or 21 sec.                  |
| 5     | 10 or 11 sec.      | 1     | Over 21 sec.                   |
| 6     | 12 or 13 sec.      | X     | Calm, or period not determined |
| 7     | 14 or 15 sec.      |       |                                |

**Table 5. HEIGHT OF THE WAVES (Hw)**

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft); 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft); 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.

| Code |                       |                          | Code                    |
|------|-----------------------|--------------------------|-------------------------|
| 0    | Less than ¼ m (1 ft)  | Add<br>50<br>to<br>Dw Dw | 0 5 m (16 ft)           |
| 1    | ½ m ( 1½ ft)          |                          | 1 5½ m (17½ ft)         |
| 2    | 1 m ( 3 ft)           |                          | 2 6 m (19 ft)           |
| 3    | 1½ m ( 5 ft)          |                          | 3 6½ m (21 ft)          |
| 4    | 2 m ( 6½ ft)          |                          | 4 7 m (22½ ft)          |
| 5    | 2½ m ( 8 ft)          |                          | 5 7½ m (24 ft)          |
| 6    | 3 m ( 9½ ft)          |                          | 6 8 m (25½ ft)          |
| 7    | 3½ m (11 ft)          |                          | 7 8½ m (27 ft)          |
| 8    | 4 m (13 ft)           |                          | 8 9 m (29 ft)           |
| 9    | 4½ m (14 ft)          |                          | 9 9½ m (30½ ft) or more |
| x    | Height not determined |                          |                         |

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

| Code | Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully   | Description     |
|------|---|-----------------|
| 00   | Sea like a mirror   | Calm            |
| 01   | Ripples with the appearance of scales are formed, but without foam crests.  | Light Air       |
| 02   | Small wavelets; crests have a glassy appearance and do not break.   | Light Breeze    |
| 03   | Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.   | Gentle Breeze   |
| 04   | Small waves, becoming longer; fairly frequent white horses.   | Moderate breeze |
| 05   | Moderate waves; many white horses are formed (chance of some spray)   | Fresh Breeze    |
| 06   | Large waves; white foam crests everywhere (probably some spray)   | Strong Breeze   |
| 07   | Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.  | Near Gale       |
| 08   | Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.   | Gale            |
| 09   | High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.  | Strong Gale     |
| 10   | Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.          | Storm           |
| 11   | Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected. | Violent Storm   |
| 12   | Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.  | Hurricane       |



Table 7. PRESENT WEATHER

W.W. CODE

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

|                                | Code figure |   |
|--------------------------------|-------------|---|
|                                | ww          |   |
| No meteors except photometeors | 00          | Cloud development not observed or not observable  |
|                                | 01          | Clouds generally dissolving or becoming less developed  |
|                                | 02          | State of sky on the whole unchanged   |
|                                | 03          | Clouds generally forming or developing  |
| Haze, dust, sand or smoke      | 04          | Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes   |
|                                | 05          | Haze  |
|                                | 06          | Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation  |
|                                | 07          | Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen |
|                                | 08          | Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no duststorm or sandstorm        |
|                                | 09          | Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour   |
|                                | 10          | Mist  |
|                                | 11          | Patches of shallow fog or ice fog at the station, whether on land or sea, not   |
|                                | 12          | More of less deeper than about 2 metres on continuous land or 10 metres at sea  |
|                                | 13          | Lightning visible, no thunder heard   |
|                                | 14          | Precipitation within sight, not reaching the ground or the surface of the sea   |
|                                | 15          | Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station                           |
|                                | 16          | Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station  |
|                                | 17          | Thunderstorm, but no precipitation at the time of observation   |
|                                | 18          | Squalls } at or within sight of the station during the preceding hour   |
|                                | 19          | Funnel clouds } or at the time of observation   |

characteristic change of the state of sky during the past hour

|              |   |   |
|--------------|---|---|
| ww = 20 - 29 |   | Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation |
| 20           | Drizzle (not freezing) or snow grains   | } not falling as shower(s)  |
| 21           | Rain (not freezing)   |   |
| 22           | Snow  |   |
| 23           | Rain and snow or ice pellets, type (a)  |   |
| 24           | Freezing drizzle or freezing rain   |   |
| 25           | Shower(s) of rain   |   |
| 26           | Shower(s) of snow, or of rain and snow  |   |
| 27           | Shower(s) of hail, or of rain and hail  |   |
| 28           | Fog or ice fog  |   |
| 29           | Thunderstorm (with or without precipitation)  |   |
| ww = 30 - 39 |   | Duststorm, sandstorm, drifting or blowing snow  |
| 30           | } Slight or moderate dust-storm or sand-storm   | - has decreased during the preceding hour   |
| 31           |   | - no appreciable change during the preceding hour   |
| 32           |   | - has begun or has increased during the preceding hour  |
| 33           | } Severe dust-storm or sand-storm   | - has decreased during the preceding hour   |
| 34           |   | - no appreciable change during the preceding hour   |
| 35           |   | - has begun or has increased during the preceding hour  |
| 36           | Slight or moderate blowing snow   | } generally low (below eye level)   |
| 37           | Heavy drifting snow   |   |
| 38           | Slight or moderate blowing snow   | } generally high (above eye level)  |
| 39           | Heavy blowing snow  |   |
| ww = 40 - 49 |   | Fog or ice fog at the time of observation   |
| 40           | Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer |   |
| 41           | Fog or ice fog in patches   |   |
| 42           | Fog or ice fog, sky visible   | } has become thinner during the preceding hour  |
| 43           | Fog or ice fog, sky invisible   |   |
| 44           | Fog or ice fog, sky visible   | } no appreciable change during the preceding hour   |
| 45           | Fog or ice fog, sky invisible   |   |
| 46           | Fog or ice fog, sky visible   | } has begun or has become thicker during the preceding hour   |
| 47           | Fog or ice fog, sky invisible   |   |
| 48           | Fog, depositing rime, sky visible   |   |
| 49           | Fog, depositing rime, sky invisible   |   |

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

|  |  |
|--|--|
| ww = 50 - 59 Drizzle                                     |  |
| 50 Drizzle, not freezing, intermittent                   | } slight at time of observation        |
| 51 Drizzle, not freezing, continuous                     |  |
| 52 Drizzle, not freezing, intermittent                   | } moderate at time of observation      |
| 53 Drizzle, not freezing, continuous                     |  |
| 54 Drizzle, not freezing, intermittent                   | } heavy (dense) at time of observation |
| 55 Drizzle, not freezing, continuous                     |  |
| 56 Drizzle, freezing, slight                             |  |
| 57 Drizzle, freezing, moderate or heavy (dense)          |  |
| 58 Drizzle and rain, slight                              |  |
| 59 Drizzle and rain, moderate or heavy                   |  |
| ww = 60 - 69 Rain  |  |
| 60 Rain, not freezing, intermittent                      | } slight at time of observation        |
| 61 Rain, not freezing, continuous                        |  |
| 62 Rain, not freezing, intermittent                      | } moderate at time of observation      |
| 63 Rain, not freezing, continuous                        |  |
| 64 Rain, not freezing, intermittent                      | } heavy at time of observation         |
| 65 Rain, not freezing, continuous                        |  |
| 66 Rain, freezing, slight                                |  |
| 67 Rain, freezing, moderate or heavy                     |  |
| 68 Rain or drizzle and snow, slight                      |  |
| 69 Rain or drizzle and snow, moderate or heavy           |  |
| 70 - 79 Solid precipitation not in showers               |  |
| ww   |  |
| 70 Intermittent fall of snow flakes                      | } slight at time of observation        |
| 71 Continuous fall of snow flakes                        |  |
| 72 Intermittent fall of snow flakes                      | } moderate at time of observation      |
| 73 Continuous fall of snow flakes                        |  |
| 74 Intermittent fall of snow flakes                      | } heavy at time of observation         |
| 75 Continuous fall of snow flakes                        |  |
| 76 Ice prisms (with or without fog)                      |  |
| 77 Snow grains (with or without fog)                     |  |
| 78 Isolated starlike snow crystals (with or without fog) |  |
| 79 Ice pellets, type (a)                                 |  |

|   |   |
|---|---|
| ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm            |   |
| 80 Rain shower(s), slight   |   |
| 81 Rain shower(s), moderate or heavy  |   |
| 82 Rain shower(s), violent  |   |
| 83 Shower(s) of rain and snow mixed, slight   |   |
| 84 Shower(s) of rain and snow mixed, moderate or heavy  |   |
| 85 Snow shower(s), slight   |   |
| 86 Snow shower(s), moderate or heavy  |   |
| 87 Shower(s) of snow pellets or ice pellets, type (b), with or without rain                         | } - slight  |
| 88 or rain and snow mixed   |   |
| 89 Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder      | } - slight  |
| 90  |   |
| 91 Slight rain at time of observation   | } - moderate or heavy   |
| 92 Moderate or heavy rain at time of observation  |   |
| 93 Slight snow, or rain and snow mixed or hail at time of observation                               | } thunderstorm during the preceding hour but not at time of observation |
| 94 Moderate or heavy snow, or rain and snow mixed or hail at time of observation                    |   |
| 95 Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | } thunderstorm at time of observation                                   |
| 96 Thunderstorm, slight or moderate, with hail at time of observation                               |   |
| 97 Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation              |   |
| 98 Thunderstorm, combined with duststorm or sandstorm at time of observation                        |   |
| 99 Thunderstorm, heavy, with hail at time of observation  |   |

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

| Code | Cloud Type   | Code | Cloud Type             |
|------|--|------|------------------------|
| 0    | Cirrus ..... Ci  | 5    | Nimbostratus ..... Ns  |
| 1    | Cirrocumulus ..... Cc  | 6    | Stratocumulus ..... Sc |
| 2    | Cirrostratus ..... Cs  | 7    | Stratus ..... St       |
| 3    | Alto cumulus ..... Ac  | 8    | Cumulus ..... Cu       |
| 4    | Altostratus ..... As   | 9    | Cumulonimbus ..... Cb  |
| X    | Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena |      |                        |

Table 9. CLOUD AMOUNT CODE

| Code | Cloud Cover                     | Code | Cloud Cover   |
|------|---------------------------------|------|---|
| 0    | 0                               | 6    | 6 oktas   |
| 1    | 1 okta or less,<br>but not zero | 7    | 7 oktas or more,<br>but not 8 oktas                     |
| 2    | 2 oktas                         | 8    | 8 oktas   |
| 3    | 3 oktas                         | 9    | Sky obscured, or<br>cloud amount cannot<br>be estimated |
| 4    | 4 oktas                         |      |   |
| 5    | 5 oktas                         |      |   |

Note: 1 okta =  $\frac{1}{8}$  of the sky covered

Table 10. VISIBILITY

| Code | Estimate of hor. Visibility                              |
|------|--|
| 0    | Less than 50 metres (less than 55 yards)                 |
| 1    | 50-200 metres (approx. 55-220 yards)                     |
| 2    | 200-500 metres (approx. 220-550 yards)                   |
| 3    | 500-1,000 metres (approx. 550 yards- $\frac{1}{2}$ n.m.) |
| 4    | 1-2 km (approx. $\frac{1}{2}$ -1 n.m.)                   |
| 5    | 2-4 km (approx. 1-2 n.m.)                                |
| 6    | 4-10 km (approx. 2-6 n.m.)                               |
| 7    | 10-20 km (approx. 6-12 n.m.)                             |
| 8    | 20-50 km (approx. 12-30 n.m.)                            |
| 9    | 50 km or more (30 n.m. or more)                          |

Note: n.m. = nautical mile

TABLE 11. INSTITUTE CODE

| Code | Institute   |
|------|---|
| 01   | Marine Ecology Laboratory, Bedford Institute                |
| 02   | Pacific Oceanographic Group                                 |
| 03   | Biological Station, St. Andrews, N.B.                       |
| 04   | Arctic Biological Station, Ste. Anne de Bellevue, P.Q.      |
| 05   | Biological Station, St. John's Nfld.                        |
| 06   | Station de Biologie Marine, Grande Riviere, P.Q.            |
| 07   | Marine Sciences Branch, Central Region                      |
| 08   | Defence Research Establishment, Atlantic                    |
| 09   | Defence Research Establishment, Pacific                     |
| 10   | Atlantic Oceanographic Laboratory, Bedford Institute        |
| 11   | Polar Continental Shelf Project                             |
| 12   | Great Lakes Institute                                       |
| 13   | Institute of Oceanography, University of British Columbia   |
| 14   | Institute of Oceanography, Dalhousie University             |
| 15   | Marine Sciences Branch, Pacific Region                      |
| 16   | Department of Transport                                     |
| 17   | Marine Sciences Centre, McGill University                   |
| 18   | Canadian Forces Maritime Command, East Coast                |
| 19   | Canadian Forces Maritime Command, West Coast                |
| 20   | Ontario Water Resources Commission                          |
| 21   | Dept. of National Health and Welfare                        |
| 22   | Inland Waters Branch, Dept. of Energy, Mines and Resources. |

### SECTION III

Serial oceanographic data





GENERAL INFORMATION

|   |   |
|---|---|
| <u>Institute:</u>                         | Pacific Oceanographic Group,<br>Nanaimo, B.C. |
| <u>Observation platform:</u>              | CCGS "Vancouver"                              |
| <u>Vessel's cruising speed:</u>           | 18 knots                                      |
| <u>Total number of stations occupied:</u> | 16  |
| <u>Anemometer height above sea level:</u> | 19 metres                                     |
| <u>Water transparency:</u>                | Secchi Disc                                   |
| <u>Barometer readings:</u>                | Aneroid Barometer (corrected)                 |
| <u>Air temperature:</u>                   | Sling Psychrometer                            |
| <u>Wet bulb temperature:</u>              | Sling Psychrometer                            |
| <u>Surface sea water temperature:</u>     | Bucket sample (deck thermometer)              |
| <u>Depth to bottom:</u>                   | U.S. Coast & Geodetic Survey<br>Chart 8500    |

The following Standard Deviations were used to express both measurement and interpolation error estimates:

|             |       |
|-------------|-------|
| Temperature | 0.02  |
| Salinity    | 0.003 |
| Oxygen      | 0.03  |



C-REF-NO 003 YR 1967 DEPTH C 4220 WAVES 1 3462 AIR T 03.8 VIS  
 CONS. NO 001 MONTH 4 MXSAMPD 06 WAVES 2 3453 WET B 02.4 STN 201  
 LAT 49-58 N DAY 26 NO.DPTH 16 WND-DIR 340 WW-CODE 00  
 LON 144-54 W HR 10.3 W-COLOR WND-SPC 06 CLD-TPE 8  
 MARSD SQ 159 C/I 1802 W-TRNSP BARO 1027.5 CLD-AMT 3 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 103 | C000  | 049 B   | 32698 |        | 2589 | 14675 |
| 103 | C010  | 0529    | 32697 |        | 2584 | 14693 |
| 103 | 0019  | 0530    | 32694 |        | 2584 | 14695 |
| 103 | C028  | 0528    | 32692 |        | 2584 | 14695 |
| 103 | C047  | 0514    | 32693 |        | 2586 | 14693 |
| 103 | C071  | 0496 B  | 32688 |        | 2587 | 14689 |
| 103 | 0095  | 0477    | 32682 |        | 2589 | 14685 |
| 103 | 0118  | 0467    | 32694 |        | 2591 | 14685 |
| 103 | 0142  | 0468    | 32977 |        | 2613 | 14693 |
| 103 | 0166  | 0430    | 33517 |        | 2660 | 14688 |
| 103 | 0190  | 0414    | 33680 |        | 2675 | 14688 |
| 103 | 0237  | 0376    | 33770 |        | 2685 | 14681 |
| 103 | 0285  | 0362    | 33817 |        | 2691 | 14683 |
| 103 | 0383  | 0352    | 33942 |        | 2702 | 14697 |
| 103 | 0481  | 0350    | 34057 |        | 2711 | 14714 |
| 103 | 0581  | 0340 B  | 34143 |        | 2719 | 14727 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0490 B  | 32698  |        | 2589 | 14675 | 0000    | 00000  | 2124 |
| 0010  | 0529    | 32697  |        | 2584 | 14693 | 0022    | 00001  | 2167 |
| 0020  | 0530    | 32694  |        | 2584 | 14695 | 0043    | 00004  | 2172 |
| 0030  | 0527    | 32692  |        | 2584 | 14695 | 0065    | 00010  | 2171 |
| 0050  | 0512    | 32693  |        | 2586 | 14692 | 0109    | 00028  | 2156 |
| 0075  | 0493 B  | 32686  |        | 2587 | 14688 | 0163    | 00063  | 2142 |
| 0100  | 0474    | 3267 B |        | 2588 | 14685 | 0217    | 00111  | 2135 |
| 0125  | 0469    | 32749  |        | 2595 | 14688 | 0270    | 00172  | 2074 |
| 0150  | 0456    | 3316 H |        | 2629 | 14692 | 0318    | 00239  | 1752 |
| 0175  | 0423    | 3361 D |        | 2668 | 14688 | 0357    | 00305  | 1389 |
| 0200  | 0405    | 3371 C |        | 2678 | 14686 | 0391    | 00370  | 1291 |
| 0225  | 0385    | 3376 C |        | 2684 | 14683 | 0423    | 00439  | 1236 |
| 0250  | 0371    | 33785  |        | 2687 | 14681 | 0454    | 00514  | 1207 |
| 0300  | 0359    | 33835  |        | 2692 | 14685 | 0514    | 00683  | 1162 |
| 0400  | 0352    | 33963  |        | 2703 | 14700 | 0626    | 01084  | 1066 |
| 0500  | 0346    | 34072  |        | 2712 | 14716 | 0730    | 01561  | 0986 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 4220 | WAVES 1 00X0 | AIR T 04.4 | VIS 7   |
| CONS. NO 002 | MONTH 4  | MXSAMPD 42   | WAVES 2 0641 | WET B 03.6 | STN 202 |
| LAT 50-05 N  | DAY 27   | NO.DPTH 26   | WND-DIR 060  | WW-CODE 00 |         |
| LON 145-08 W | HR 14.8  | W-COLOR      | WND-SPD 01   | CLD-TPE 2  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP      | BARO 1025.9  | CLD-AMT 1  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 148 | 0000  | 058 B   | 32682 | 753    | 2577 | 14712 |
| 148 | 0010  | 0545    | 32691 | 756    | 2582 | 14700 |
| 148 | 0020  | 0545 B  | 32693 | 754    | 2582 | 14701 |
| 148 | 0030  | 0537    | 32693 | 754    | 2583 | 14700 |
| 148 | 0050  | 0507    | 32696 | 756    | 2587 | 14691 |
| 148 | 0075  | 0493    | 32690 | 757    | 2588 | 14689 |
| 148 | 0100  | 0486    | 32688 | 754    | 2588 | 14690 |
| 148 | 0125  | 0464    | 32691 | 748    | 2591 | 14685 |
| 148 | 0150  | 0496 B  | 33214 | 582 B  | 2629 | 14709 |
| 148 | 0175  | 0422    | 33600 | 420    | 2667 | 14688 |
| 148 | 0200  | 0401    | 33711 | 340    | 2678 | 14685 |
| 148 | 0250  | 0373    | 33776 | 260    | 2686 | 14682 |
| 148 | 0300  | 0360    | 33841 | 197    | 2693 | 14685 |
| 148 | 0400  | 0350    | 33960 | 124    | 2703 | 14699 |
| 148 | 0500  | 0349    | 34064 | 093    | 2711 | 14717 |
| 148 | 0600  | 0336    | 34175 | 059    | 2722 | 14729 |
| 160 | 0800  | 0312    | 34302 | 060    | 2734 | 14754 |
| 160 | 1000  | 0287    | 34373 | 054    | 2742 | 14778 |
| 160 | 1200  | 0262    | 34446 | 066    | 2750 | 14801 |
| 160 | 1500  | 0227    | 34509 | 082    | 2758 | 14837 |
| 159 | 2000  | 0194 B  | 34584 | 152    | 2766 | 14909 |
| 159 | 2500  | 0174    | 34619 | 205 B  | 2771 | 14986 |
| 159 | 3000  | 0159    | 34644 | 271    | 2774 | 15066 |
| 159 | 3500  | 0152    | 34662 | 310    | 2776 | 15151 |
| 159 | 4000  | 0151    | 34675 | 339    | 2777 | 15239 |
| 159 | 4200  | 0151 B  | 34679 | 340    | 2777 | 15274 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0580 B  | 32682 | 753    | 2577 | 14712 | 0000    | C0000  | 2234 |
| 0010  | 0545    | 32691 | 756    | 2582 | 14700 | 0022    | C0001  | 2189 |
| 0020  | 0545 B  | 32693 | 754    | 2582 | 14701 | 0044    | C0005  | 2189 |
| 0030  | 0537    | 32693 | 754    | 2583 | 14700 | 0066    | 00010  | 2181 |
| 0050  | 0507    | 32696 | 756    | 2587 | 14690 | 0110    | C0028  | 2148 |
| 0075  | 0493    | 32690 | 757    | 2588 | 14689 | 0164    | 00063  | 2140 |
| 0100  | 0486    | 32688 | 754    | 2588 | 14690 | 0218    | 00111  | 2136 |
| 0125  | 0464    | 32691 | 748    | 2591 | 14685 | 0271    | 00173  | 2113 |
| 0150  | 0496 B  | 33214 | 582 B  | 2629 | 14709 | 0320    | 00241  | 1757 |
| 0175  | 0422    | 33600 | 420    | 2667 | 14688 | 0359    | 00306  | 1392 |

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0200  | 0401    | 33711  | 340    | 2678 | 14684 | 0393    | 00371  | 1289 |
| 0225  | 0385    | 3376 C | 292 B  | 2684 | 14682 | 0425    | 00441  | 1241 |
| 0250  | 0373    | 33776  | 260    | 2686 | 14682 | 0456    | 00516  | 1216 |
| 0300  | 0360    | 33841  | 197    | 2693 | 14685 | 0516    | 00685  | 1158 |
| 0400  | 0350    | 33960  | 124    | 2703 | 14699 | 0628    | 01086  | 1066 |
| 0500  | 0349    | 34064  | 093    | 2711 | 14717 | 0732    | 01565  | 0995 |
| 0600  | 0336    | 34175  | 059    | 2722 | 14729 | 0828    | 02106  | 0906 |
| 0700  | 0324    | 34250  | 054 B  | 2729 | 14742 | 0917    | 02696  | 0844 |
| 0800  | 0312    | 34302  | 060    | 2734 | 14754 | 1000    | 03336  | 0800 |
| 1000  | 0287    | 34373  | 054    | 2742 | 14778 | 1155    | 04766  | 0733 |
| 1200  | 0262    | 34446  | 066    | 2750 | 14801 | 1297    | 06361  | 0663 |
| 1500  | 0227    | 34509  | 082    | 2758 | 14837 | 1488    | 09003  | 0593 |
| 2000  | 0194 B  | 34584  | 152    | 2766 | 14909 | 1771    | 14064  | 0521 |
| 2500  | 0174    | 34619  | 205 B  | 2771 | 14986 | 2028    | 20016  | 0489 |
| 3000  | 0159    | 34644  | 271    | 2774 | 15067 | 2272    | 26931  | 0466 |
| 3500  | 0152    | 34662  | 310    | 2776 | 15151 | 2508    | 34877  | 0458 |
| 4000  | 0151    | 34675  | 339    | 2777 | 15239 | 2743    | 44029  | 0461 |

C-REF-NO 003 YR 1967 DEPTH C 4220 WAVES 1 1665 AIR T 06.1 VIS  
 CONS. NO 003 MONTH 5 MXSAMPD 19 WAVES 2 1665 WET B 06.1 STN 203  
 LAT 50-03 N DAY 02 NO.DPTH 21 WND-DIR 160 WW-CODE  
 LON 145-02 W HR 19.7 W-COLOR 10 WND-SPD 07 CLD-TPE  
 MARSD SQ 195 C/I 1802 W-TRNSP 21 BARO 1027.0 CLD-AMT HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 197 | C000  | 059 B   | 32650 | 752    | 2573 | 14716 |
| 197 | C010  | 0582    | 32643 | 752    | 2574 | 14714 |
| 197 | 0019  | 0582    | 32645 | 754    | 2574 | 14715 |
| 197 | C028  | 0578    | 32645 | 751    | 2574 | 14715 |
| 197 | 0048  | 0542    | 32673 | 749    | 2581 | 14704 |
| 197 | C072  | 0528    | 32690 | 746    | 2584 | 14703 |
| 197 | C096  | 0502    | 32702 | 739    | 2588 | 14696 |
| 197 | 0119  | 0480    | 32714 | 739    | 2591 | 14691 |
| 197 | 0143  | 0476    | 33171 | 580    | 2628 | 14699 |
| 197 | 0167  | 0454    |       | 441    |      |       |
| 197 | 0191  | 0419    | 33689 | 370    | 2675 | 14690 |
| 197 | 0239  | 0382    | 33771 | 277    | 2685 | 14684 |
| 197 | 0287  | 0363    | 33827 | 206    | 2691 | 14684 |
| 197 | 0385  | 0353    | 33925 | 148    | 2700 | 14698 |
| 197 | 0484  | 0352    | 34029 | 106    | 2708 | 14715 |
| 197 | 0550  | 0347    | 34107 | 073    | 2715 | 14725 |
| 201 | 0740  | 0328    | 34229 | 068    | 2727 | 14750 |
| 201 | 0932  | 0299    | 34349 | 067    | 2739 | 14771 |
| 201 | 1127  | 0271    |       | 060    |      |       |
| 201 | 1422  | 0238    | 34487 | 058    | 2755 | 14829 |
| 201 | 1918  | 0197 B  | 34571 | 126    | 2765 | 14896 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0590 B  | 32650  | 752    | 2573 | 14716 | 0000    | 00000  | 2270 |
| 0010  | 0582    | 32643  | 752    | 2574 | 14714 | 0023    | 00001  | 2267 |
| 0020  | 0582    | 32645  | 754    | 2574 | 14716 | 0046    | 00005  | 2267 |
| 0030  | 0575    | 32647  | 751    | 2575 | 14714 | 0068    | 00011  | 2258 |
| 0050  | 0540    | 32675  | 749    | 2581 | 14704 | 0113    | 00029  | 2200 |
| 0075  | 0525    | 32692  | 745    | 2584 | 14702 | 0168    | 00064  | 2173 |
| 0100  | 0497    | 3269 C | 744 B  | 2587 | 14695 | 0223    | 00113  | 2147 |
| 0125  | 0479    | 3281 F | 706 B  | 2599 | 14693 | 0275    | 00174  | 2037 |
| 0150  | 0471    | 33277  | 535    | 2636 | 14700 | 0322    | 00239  | 1683 |
| 0175  | 0442    | 33570  | 413    | 2663 | 14696 | 0361    | 00304  | 1435 |
| 0200  | 0410    | 3372 D | 349    | 2678 | 14688 | 0396    | 00370  | 1290 |
| 0225  | 0390    | 3377 E | 300    | 2684 | 14685 | 0428    | 00439  | 1235 |
| 0250  | 0376    | 33785  | 259    | 2687 | 14683 | 0458    | 00515  | 1213 |
| 0300  | 0360    | 33840  | 194    | 2693 | 14685 | 0518    | 00683  | 1159 |
| 0400  | 0353    | 33940  | 141    | 2701 | 14700 | 0631    | 01088  | 1084 |



| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0500  | 0351    | 34048  | 097    | 2710 | 14717 | 0737    | 01575  | 1009 |
| 0600  | 0343    | 3415 B | 065 B  | 2719 | 14732 | 0835    | 02128  | 0934 |
| 0700  | 0333    | 3421 B | 063 B  | 2725 | 14745 | 0927    | 02740  | 0884 |
| 0800  | 0319    | 34269  | 068    | 2731 | 14757 | 1014    | 03408  | 0833 |
| 1000  | 0289    | 3438 B | 065    | 2742 | 14778 | 1172    | 04864  | 0732 |
| 1200  | 0262    | 3444 C | 058    | 2750 | 14801 | 1314    | 06461  | 0666 |
| 1500  | 0229    | 3453 F | 068    | 2759 | 14839 | 1503    | 09074  | 0579 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 4220 | WAVES 1 1866 | AIR T 07.2 | VIS     |
| CONS. NO 004 | MONTH 5  | MXSAMPD 05   | WAVES 2 1966 | WET B 06.9 | STN 204 |
| LAT 50-04 N  | DAY 06   | NO.DPTH 15   | WND-DIR 190  | WW-CODE    |         |
| LON 144-58 W | HR 20.6  | W-COLOR 10   | WND-SPC 07   | CLD-TPE    |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 14   | BARO 1016.0  | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 206 | 0000  | 061 B   | 32593 | 747    | 2566 | 14723 |
| 206 | 0010  | 0587    | 32647 | 748    | 2573 | 14716 |
| 206 | 0020  | 0587    | 32650 | 745    | 2574 | 14718 |
| 206 | 0030  | 0584    | 32650 | 743    | 2574 | 14718 |
| 206 | 0050  | 0578    | 32650 | 741    | 2575 | 14719 |
| 206 | 0075  | 0536    | 32679 | 739    | 2582 | 14706 |
| 206 | 0099  | 0509    | 32693 | 735    | 2586 | 14699 |
| 206 | 0124  | 0485    | 32703 | 734    | 2590 | 14694 |
| 206 | 0149  | 0498    | 33173 | 581    | 2625 | 14709 |
| 206 | 0174  | 0455    | 33631 | 424    | 2666 | 14702 |
| 206 | 0199  | 0412    | 33710 | 344    | 2677 | 14689 |
| 206 | 0248  | 0380    | 33766 | 268    | 2685 | 14684 |
| 206 | 0298  | 0365    | 33824 | 208    | 2691 | 14687 |
| 206 | 0398  | 0353    | 33952 | 129    | 2702 | 14700 |
| 206 | 0498  | 0351    | 34072 | 085    | 2712 | 14717 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0610 B  | 32593  | 747    | 2566 | 14723 | 0000    | 00000  | 2336 |
| 0010  | 0587    | 32647  | 748    | 2573 | 14716 | 0023    | 00001  | 2270 |
| 0020  | 0587    | 32650  | 745    | 2574 | 14718 | 0046    | 00005  | 2269 |
| 0030  | 0584    | 32650  | 743    | 2574 | 14718 | 0069    | 00011  | 2266 |
| 0050  | 0578    | 32650  | 741    | 2575 | 14719 | 0114    | 00029  | 2261 |
| 0075  | 0536    | 32679  | 739    | 2582 | 14706 | 0170    | 00065  | 2195 |
| 0100  | 0508    | 32689  | 736    | 2586 | 14699 | 0225    | 00114  | 2159 |
| 0125  | 0486    | 32717  | 729    | 2591 | 14694 | 0279    | 00176  | 2116 |
| 0150  | 0497    | 33195  | 574    | 2627 | 14709 | 0328    | 00245  | 1772 |
| 0175  | 0453    | 33638  | 420    | 2667 | 14701 | 0368    | 00311  | 1396 |
| 0200  | 0411    | 33712  | 342    | 2677 | 14689 | 0402    | 00376  | 1299 |
| 0225  | 0390    | 3375 B | 296 B  | 2682 | 14684 | 0434    | 00446  | 1252 |
| 0250  | 0379    | 33768  | 265    | 2685 | 14684 | 0465    | 00522  | 1228 |
| 0300  | 0365    | 33827  | 206    | 2691 | 14687 | 0526    | 00693  | 1174 |
| 0400  | 0351    | 33951  | 125    | 2702 | 14699 | 0639    | 01098  | 1074 |
| 0500  | 0351    | 34074  | 085    | 2712 | 14718 | 0743    | 01577  | 0989 |

|              |          |              |              |           |         |
|--------------|----------|--------------|--------------|-----------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 4220 | WAVES 1 3453 | AIR T     | VIS     |
| CONS. NO 005 | MONTH 5  | MXSAMPD 05   | WAVES 2 3452 | WET B     | STN 205 |
| LAT 49-58 N  | DAY 08   | NO.DPTH 15   | WND-DIR 330  | WW-CODE   |         |
| LON 145-03 W | HR 20.0  | W-COLOR 10   | WND-SPC 07   | CLD-TPE 8 |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP 18   | BARO 1031.0  | CLD-AMT 5 | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 200 | 0000  | 061 B   | 32647 | 747    | 2571 | 14724 |
| 200 | 0010  | 0610    | 32642 | 747    | 2570 | 14725 |
| 200 | 0019  | 0609    | 32642 | 745    | 2570 | 14726 |
| 200 | 0029  | 0607    | 32640 | 745    | 2570 | 14727 |
| 200 | 0048  | 0561    | 32665 | 746    | 2578 | 14712 |
| 200 | 0072  | 0538 B  | 32677 | 740    | 2582 | 14707 |
| 200 | 0097  | 0517    | 32700 | 734    | 2586 | 14702 |
| 200 | 0121  | 0493    | 32771 | 708    | 2594 | 14697 |
| 200 | 0145  | 0501    | 33153 | 594    | 2623 | 14710 |
| 200 | 0169  | 0465    |       | 451    |      |       |
| 200 | 0193  | 0439    | 33680 | 383    | 2672 | 14699 |
| 200 | 0242  | 0395    | 33748 | 300    | 2682 | 14689 |
| 200 | 0291  | 0373    | 33815 | 223    | 2689 | 14689 |
| 200 | 0390  | 0358    | 33930 | 144    | 2700 | 14701 |
| 200 | 0490  | 0352    | 34040 | 094    | 2709 | 14716 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0610 B  | 32647  | 747    | 2571 | 14724 | 0000    | 00000  | 2295 |
| 0010  | 0610    | 32642  | 747    | 2570 | 14725 | 0023    | 00001  | 2300 |
| 0020  | 0609    | 32642  | 745    | 2570 | 14727 | 0046    | 00005  | 2301 |
| 0030  | 0605    | 32641  | 745    | 2571 | 14726 | 0069    | 00011  | 2297 |
| 0050  | 0558    | 32666  | 746    | 2578 | 14711 | 0115    | 00029  | 2227 |
| 0075  | 0536 B  | 32678  | 740    | 2582 | 14706 | 0171    | 00065  | 2195 |
| 0100  | 0513    | 3270 B | 734    | 2586 | 14701 | 0225    | 00114  | 2157 |
| 0125  | 0495    | 3283 C | 693    | 2598 | 14699 | 0278    | 00175  | 2044 |
| 0150  | 0495    | 33226  | 562    | 2630 | 14709 | 0326    | 00242  | 1747 |
| 0175  | 0458    | 3353 B | 430    | 2658 | 14702 | 0367    | 00309  | 1483 |
| 0200  | 0432    | 3370 C | 369    | 2675 | 14697 | 0402    | 00377  | 1326 |
| 0225  | 0408    | 3375 F | 324    | 2681 | 14692 | 0435    | 00448  | 1268 |
| 0250  | 0390    | 33759  | 286    | 2683 | 14689 | 0466    | 00526  | 1246 |
| 0300  | 0371    | 33826  | 213    | 2690 | 14690 | 0528    | 00698  | 1180 |
| 0400  | 0352 B  | 33945  | 126 C  | 2702 | 14700 | 0642    | 01105  | 1080 |
| 0500  | 0353    | 34050  | 093    | 2710 | 14718 | 0747    | 01591  | 1010 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 4220 | WAVES 1 3253 | AIR T 04.4 | VIS     |
| CONS. NO 006 | MONTH 5  | MXSAMPD 12   | WAVES 2 3353 | WET B 03.3 | STN 206 |
| LAT 50-00 N  | DAY 11   | NO.DPTH 19   | WND-DIR 310  | WW-CODE    |         |
| LON 145-00 W | HR 19.9  | W-COLOR 10   | WND-SPC 05   | CLD-TPE 7  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 16   | BARO 1023.0  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 199 | C000  | 063 B   | 32654 | 742    | 2569 | 14732 |
| 199 | C010  | 0620    | 32643 | 749    | 2569 | 14729 |
| 199 | C020  | 0621    | 32643 | 748    | 2569 | 14731 |
| 199 | C029  | 0614    | 32643 | 746    | 2570 | 14730 |
| 199 | C049  | 0535    | 32672 | 743    | 2581 | 14702 |
| 199 | C073  | 0516 B  | 32689 | 735    | 2585 | 14698 |
| 199 | C097  | 0501 B  | 32696 | 744    | 2587 | 14696 |
| 199 | 0122  | 0489    | 32693 | 740    | 2588 | 14695 |
| 199 | 0146  | 0483    | 32958 | 646    | 2610 | 14700 |
| 199 | 0170  | 0482    | 33551 | 468    | 2657 | 14711 |
| 199 | 0195  | 0455    | 33661 | 410    | 2669 | 14706 |
| 199 | 0244  | 0414    | 33749 | 320    | 2680 | 14698 |
| 199 | 0293  | 0380    | 33806 | 239    | 2688 | 14692 |
| 199 | 0392  | 0358    | 33918 | 150    | 2699 | 14701 |
| 199 | 0491  | 0355    | 34027 | 105    | 2708 | 14717 |
| 199 | 0589  | 0348    | 34125 | 073    | 2716 | 14732 |
| 199 | 0784  | 0329    | 34265 | 063    | 2729 | 14758 |
| 199 | 0982  | 0294    | 34369 | 058    | 2741 | 14778 |
| 199 | 1177  | 0265 B  | 34425 | 061    | 2748 | 14798 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0630 B  | 32654  | 742    | 2569 | 14732 | 0000    | CC000  | 2314 |
| 0010  | 0620    | 32643  | 749    | 2569 | 14729 | 0023    | C0001  | 2311 |
| 0020  | 0621    | 32643  | 748    | 2569 | 14731 | 0047    | 0C005  | 2314 |
| 0030  | 0610    | 32644  | 746    | 2570 | 14729 | 0070    | 00011  | 2302 |
| 0050  | 0533    | 32673  | 743    | 2582 | 14701 | 0115    | C0029  | 2194 |
| 0075  | 0515 B  | 32690  | 736    | 2585 | 14698 | 0170    | 00064  | 2163 |
| 0100  | 0499 B  | 3269 B | 746    | 2587 | 14695 | 0224    | 00113  | 2150 |
| 0125  | 0488    | 32710  | 733    | 2590 | 14695 | 0278    | 00175  | 2124 |
| 0150  | 0484    | 3306 F | 615 B  | 2618 | 14702 | 0328    | 00245  | 1857 |
| 0175  | 0477    | 3360 D | 451    | 2661 | 14711 | 0370    | 00314  | 1454 |
| 0200  | 0450    | 33675  | 400    | 2670 | 14705 | 0405    | 00383  | 1368 |
| 0225  | 0429    | 3373 B | 353    | 2677 | 14700 | 0439    | 00456  | 1308 |
| 0250  | 0409    | 33757  | 309    | 2681 | 14697 | 0471    | 00535  | 1267 |
| 0300  | 0377    | 33814  | 230    | 2689 | 14692 | 0534    | 00710  | 1196 |
| 0400  | 0357    | 33927  | 145    | 2700 | 14702 | 0649    | 01124  | 1099 |
| 0500  | 0354    | 34037  | 101    | 2709 | 14719 | 0756    | 01616  | 1021 |
| 0600  | 0347    | 34134  | 071    | 2717 | 14733 | 0856    | 02177  | 0948 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0700  | 0339    | 34211 | 063    | 2724 | 14747 | 0949    | 02796  | 0889 |
| 0800  | 0326    | 34275 | 062    | 2730 | 14760 | 1036    | 03467  | 0835 |
| 1000  | 0295    | 34375 | 058    | 2741 | 14781 | 1195    | 04933  | 0740 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 4220 | WAVES 1 1764 | AIR T      | VIS     |
| CONS. NO 007 | MONTH 5  | MXSAMPD 05   | WAVES 2 1863 | WET B      | STN 207 |
| LAT 50-01 N  | DAY 17   | NO.DPTH 15   | WND-DIR 170  | WW-CODE 02 |         |
| LON 144-58 W | HR 19.8  | W-COLOR 10   | WND-SPC 09   | CLD-TPE 7  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 16   | BARO 1018.0  | CLD-AMT 9  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 198 | C000  | 071 B   | 32648 | 742    | 2558 | 14764 |
| 198 | 0009  | 0693    | 32643 | 746    | 2560 | 14758 |
| 198 | 0018  | 0683    | 32644 | 748    | 2561 | 14756 |
| 198 | C026  | 0610    | 32661 | 770    | 2572 | 14728 |
| 198 | 0044  | 0565    | 32680 | 749    | 2579 | 14713 |
| 198 | C066  | 0536    | 32693 | 738    | 2583 | 14705 |
| 198 | 0088  | 0484 B  | 32679 | 741    | 2588 | 14687 |
| 198 | 0110  | 0479    | 32712 | 731 B  | 2591 | 14689 |
| 198 | 0132  | 0480    | 33053 | 619    | 2618 | 14698 |
| 198 | 0154  | 0444    | 33532 | 456    | 2660 | 14693 |
| 198 | 0176  | 0424    | 33653 | 392    | 2671 | 14689 |
| 198 | 0221  | 0404    | 33747 | 307    | 2681 | 14690 |
| 198 | 0266  | 0379    | 33802 | 240    | 2688 | 14687 |
| 198 | 0359  | 0358    | 33906 | 153    | 2698 | 14695 |
| 198 | 0455  | 0355    | 34016 | 108    | 2707 | 14711 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0710 B  | 32648  | 742    | 2558 | 14764 | CC00    | CC0000 | 2418 |
| 0010  | 0694    | 32642  | 746    | 2559 | 14759 | 0024    | CC001  | 2402 |
| 0020  | 0666 B  | 32648  | 754    | 2564 | 14749 | 0048    | CC0005 | 2365 |
| 0030  | 0592 B  | 32667  | 769    | 2574 | 14722 | 0072    | CC0011 | 2263 |
| 0050  | 0557    | 32685  | 745    | 2580 | 14711 | 0117    | CC0029 | 2211 |
| 0075  | 0513 B  | 32686  | 739    | 2585 | 14697 | 0172    | CC0065 | 2165 |
| 0100  | 0478    | 3268 D | 743 B  | 2588 | 14686 | 0226    | CC0113 | 2137 |
| 0125  | 0481    | 3292 B | 663    | 2607 | 14695 | 0277    | CC0172 | 1959 |
| 0150  | 0451    | 3345 D | 484 B  | 2653 | 14694 | 0321    | CC0234 | 1530 |
| 0175  | 0425    | 33652  | 394    | 2671 | 14690 | 0358    | CC0294 | 1355 |
| 0200  | 0412    | 3372 B | 342    | 2678 | 14689 | 0391    | CC0358 | 1295 |
| 0225  | 0402    | 33753  | 300    | 2682 | 14689 | 0423    | CC0428 | 1260 |
| 0250  | 0388    | 33785  | 262    | 2686 | 14688 | 0455    | CC0505 | 1224 |
| 0300  | 0368    | 33841  | 202    | 2692 | 14689 | 0515    | CC0675 | 1166 |
| 0400  | 0351    | 33955  | 125    | 2703 | 14700 | 0628    | CC1078 | 1071 |



|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 4220 | WAVES 1 0422 | AIR T 06.9 | VIS     |
| CONS. NO 008 | MONTH 5  | MXSAMPD 42   | WAVES 2 0922 | WET B 06.2 | STN 208 |
| LAT 50-00 N  | DAY 19   | NO.DPTH 26   | WND-DIR 040  | WW-CODE 60 |         |
| LON 145-00 W | HR 15.3  | W-COLOR      | WND-SPC 10   | CLD-TPE 7  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP      | BARO 1008.0  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 153 | 0000  | 073 B   | 32619 | 744    | 2553 | 14771 |
| 153 | 0010  |         | 32619 | 760    |      |       |
| 153 | 0020  | 0661    | 32631 | 767    | 2563 | 14747 |
| 153 | 0030  | 0613    | 32652 | 782    | 2571 | 14730 |
| 153 | 0050  | 0556    | 32678 | 767    | 2580 | 14710 |
| 153 | 0075  | 0510 B  | 32711 | 752    | 2587 | 14696 |
| 153 | 0100  | 0495 B  | 32702 | 751    | 2588 | 14694 |
| 153 | 0125  | 0477    | 32705 | 742    | 2591 | 14690 |
| 153 | 0150  | 0466    | 32975 | 644    | 2613 | 14694 |
| 153 | 0175  | 0447    | 33499 | 466    | 2657 | 14697 |
| 153 | 0200  | 0432    | 33708 | 362    | 2675 | 14697 |
| 153 | 0250  | 0395    | 33753 | 292    | 2682 | 14691 |
| 153 | 0300  | 0370    | 33824 | 211    | 2690 | 14689 |
| 153 | 0400  | 0356    | 33948 | 133    | 2702 | 14702 |
| 153 | 0500  | 0357    | 34057 | 097    | 2710 | 14720 |
| 153 | 0600  | 0347    | 34132 | 071    | 2717 | 14733 |
| 164 | 0800  | 0324    | 34268 | 061    | 2730 | 14759 |
| 164 | 1000  | 0293    | 34355 | 055    | 2740 | 14780 |
| 164 | 1200  | 0263    | 34421 | 065    | 2748 | 14801 |
| 164 | 1500  |         | 34491 | 088    |      |       |
| 164 | 1999  | 0195    | 34569 | 141    | 2765 | 14909 |
| 164 | 2493  | 0173    | 34609 | 205    | 2770 | 14984 |
| 164 | 2993  | 0159    | 34639 | 262    | 2774 | 15065 |
| 164 | 3493  | 0153    | 34654 | 303 B  | 2775 | 15150 |
| 164 | 3993  | 0151    | 34662 | 342    | 2776 | 15237 |
| 164 | 4193  | 0151 B  | 34674 | 336    | 2777 | 15273 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0730 B  | 32619 | 744    | 2553 | 14771 | 0000    | 00000  | 2465 |
| 0010  | 0691 B  | 32619 | 760    | 2558 | 14757 | 0025    | 00001  | 2417 |
| 0020  | 0661    | 32631 | 767    | 2563 | 14747 | 0049    | 00005  | 2371 |
| 0030  | 0613    | 32652 | 782    | 2571 | 14730 | 0072    | 00011  | 2299 |
| 0050  | 0556    | 32678 | 767    | 2580 | 14710 | 0118    | 00030  | 2215 |
| 0075  | 0510 B  | 32711 | 752    | 2587 | 14696 | 0172    | 00065  | 2142 |
| 0100  | 0495 B  | 32702 | 751    | 2588 | 14694 | 0226    | 00113  | 2135 |
| 0125  | 0477    | 32705 | 742    | 2591 | 14690 | 0280    | 00175  | 2116 |
| 0150  | 0466    | 32975 | 644    | 2613 | 14694 | 0330    | 00246  | 1904 |
| 0175  | 0447    | 33499 | 466    | 2657 | 14697 | 0373    | 00316  | 1493 |

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUNC | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0200  | 0432    | 33708  | 362    | 2675 | 14697 | 0409    | 00384  | 1323 |
| 0225  | 0413    | 3376 G | 316 C  | 2681 | 14694 | 0441    | 00455  | 1267 |
| 0250  | 0395    | 33753  | 292    | 2682 | 14691 | 0473    | 00533  | 1255 |
| 0300  | 0370    | 33824  | 211    | 2690 | 14689 | 0535    | 00706  | 1181 |
| 0400  | 0356    | 33948  | 133    | 2702 | 14702 | 0649    | 01114  | 1081 |
| 0500  | 0357    | 34057  | 097    | 2710 | 14720 | 0754    | 01600  | 1008 |
| 0600  | 0347    | 34132  | 071    | 2717 | 14733 | 0853    | 02157  | 0949 |
| 0700  | 0336    | 34204  | 062    | 2724 | 14746 | 0946    | 02778  | 0891 |
| 0800  | 0324    | 34268  | 061    | 2730 | 14759 | 1034    | 03451  | 0838 |
| 1000  | 0293    | 34355  | 055    | 2740 | 14780 | 1195    | 04933  | 0753 |
| 1200  | 0263    | 34421  | 065    | 2748 | 14801 | 1340    | 06573  | 0683 |
| 1500  | 0230    | 34491  | 088    | 2756 | 14839 | 1537    | 09292  | 0610 |
| 2000  | 0195    | 34569  | 141    | 2765 | 14909 | 1827    | 14482  | 0533 |
| 2500  | 0173    | 34610  | 206    | 2770 | 14986 | 2089    | 20531  | 0494 |
| 3000  | 0159    | 34639  | 263    | 2774 | 15066 | 2334    | 27506  | 0470 |
| 3500  | 0153    | 34654  | 304 B  | 2775 | 15151 | 2573    | 35543  | 0465 |
| 4000  | 0151    | 34665  | 336 B  | 2776 | 15239 | 2812    | 44829  | 0467 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 4023 | WAVES 1 2733 | AIR T 07.4 | VIS     |
| CONS. NO 009 | MONTH 5  | MXSAMPD 04   | WAVES 2 2734 | WET B 05.4 | STN 012 |
| LAT 49-48 N  | DAY 22   | NO.DPTH 14   | WND-DIR 270  | WW-CODE 02 |         |
| LON 142-28 W | HR 13.2  | W-COLOR      | WND-SPC 06   | CLD-TPE 6  |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP      | BARO 1014.2  | CLD-AMT 6  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 132 | C000  | 070 B   | 32665 |        | 2560 | 14760 |
| 132 | C010  | 0677    | 32634 |        | 2561 | 14752 |
| 132 | C020  | 0679    | 32441 |        | 2546 | 14752 |
| 132 | 0030  | 0677    | 32635 |        | 2561 | 14755 |
| 132 | C050  | 0543    | 32665 |        | 2580 | 14705 |
| 132 | C075  | 0504 B  | 32698 |        | 2587 | 14693 |
| 132 | 0100  | 0497 B  | 32679 |        | 2586 | 14694 |
| 132 | 0125  | 0487    | 32806 |        | 2597 | 14696 |
| 132 | 0150  | 0528    | 33545 |        | 2651 | 14727 |
| 132 | 0175  | 0519    | 33542 |        | 2652 | 14727 |
| 132 | 0200  | 0492    | 33784 |        | 2674 | 14723 |
| 132 | 0250  | 0450    | 33848 |        | 2684 | 14715 |
| 132 | 0300  | 0424    | 33898 |        | 2691 | 14713 |
| 132 | 0400  | 0385    | 33996 |        | 2703 | 14715 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0700 B  | 32665  |        | 2560 | 14760 | 0000    | C0000  | 2392 |
| 0010  | 0677    | 32634  |        | 2561 | 14752 | 0024    | C0001  | 2388 |
| 0020  | 0679    | 32441  |        | 2546 | 14752 | 0049    | C0005  | 2536 |
| 0030  | 0677    | 32635  |        | 2561 | 14755 | 0074    | 00011  | 2390 |
| 0050  | 0543    | 32665  |        | 2580 | 14705 | 0120    | 00030  | 2211 |
| 0075  | 0504 B  | 32698  |        | 2587 | 14693 | 0175    | C0065  | 2146 |
| 0100  | 0497 B  | 32679  |        | 2586 | 14694 | 0229    | 00114  | 2155 |
| 0125  | 0487    | 32806  |        | 2597 | 14696 | 0282    | 00175  | 2051 |
| 0150  | 0528    | 33545  |        | 2651 | 14727 | 0327    | 00238  | 1545 |
| 0175  | 0519    | 33542  |        | 2652 | 14727 | 0366    | 00303  | 1540 |
| 0200  | 0492    | 33784  |        | 2674 | 14723 | 0402    | 00372  | 1331 |
| 0225  | 0469    | 3385 H |        | 2682 | 14719 | 0435    | 00443  | 1257 |
| 0250  | 0450    | 33848  |        | 2684 | 14715 | 0466    | C0520  | 1242 |
| 0300  | 0424    | 33898  |        | 2691 | 14713 | 0527    | 00692  | 1181 |
| 0400  | 0385    | 33996  |        | 2703 | 14715 | 0641    | 01099  | 1075 |

|              |          |         |    |              |         |    |         |
|--------------|----------|---------|----|--------------|---------|----|---------|
| C-REF-NO 003 | YR 1967  | DEPTH   |    | WAVES 1 2534 | AIR T   |    | VIS     |
| CONS. NO 010 | MONTH 5  | MXSAMPD | 04 | WAVES 2 2536 | WET B   |    | STN 011 |
| LAT 49-42 N  | DAY 22   | NO.DPTH | 14 | WND-DIR 240  | WW-CODE | 02 |         |
| LON 139-40 W | HR 20.4  | W-COLOR | 10 | WND-SPC 07   | CLD-TPE | 6  |         |
| MARSD SQ 158 | C/I 1802 | W-TRNSP | 10 | BARO 1001.6  | CLD-AMT | 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 204 | C000  | 075 B   | 32607 |        | 2549 | 14779 |
| 204 | C010  | 0705    | 32604 |        | 2555 | 14763 |
| 204 | C020  | 0702    | 32600 |        | 2555 | 14763 |
| 204 | C030  | 0696    | 32601 |        | 2556 | 14762 |
| 204 | C050  | 0612    | 32631 |        | 2569 | 14732 |
| 204 | C075  | 0544 B  | 32631 |        | 2577 | 14709 |
| 204 | 0100  | 0525 B  | 32646 |        | 2581 | 14705 |
| 204 | 0125  | 0500    | 32690 |        | 2587 | 14700 |
| 204 | 0150  | 0522    |       |        |      |       |
| 204 | 0175  | 0479    | 33649 |        | 2665 | 14712 |
| 204 | 0200  | 0432    | 33691 |        | 2673 | 14697 |
| 204 | 0250  | 0392    | 33783 |        | 2685 | 14690 |
| 204 | 0300  | 0381    | 33838 |        | 2690 | 14694 |
| 204 | 0400  | 0374 B  | 33977 |        | 2702 | 14710 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0750 B  | 32607  |        | 2549 | 14779 | 0000    | 00000  | 2501 |
| 0010  | 0705    | 32604  |        | 2555 | 14763 | 0025    | 00001  | 2446 |
| 0020  | 0702    | 32600  |        | 2555 | 14763 | 0049    | 00005  | 2446 |
| 0030  | 0696    | 32601  |        | 2556 | 14762 | 0074    | 00011  | 2439 |
| 0050  | 0612    | 32631  |        | 2569 | 14732 | 0122    | 00031  | 2316 |
| 0075  | 0544 B  | 32631  |        | 2577 | 14709 | 0179    | 00067  | 2240 |
| 0100  | 0525 B  | 32646  |        | 2581 | 14705 | 0235    | 00118  | 2210 |
| 0125  | 0500    | 32690  |        | 2587 | 14700 | 0290    | 00181  | 2152 |
| 0150  | 0522    | 3317 I |        | 2622 | 14719 | 0340    | 00251  | 1819 |
| 0175  | 0479    | 33649  |        | 2665 | 14712 | 0381    | 00318  | 1415 |
| 0200  | 0432    | 33691  |        | 2673 | 14697 | 0416    | 00385  | 1336 |
| 0225  | 0406    | 33739  |        | 2680 | 14691 | 0448    | 00457  | 1275 |
| 0250  | 0392    | 33783  |        | 2685 | 14690 | 0480    | 00533  | 1230 |
| 0300  | 0381    | 33838  |        | 2690 | 14694 | 0541    | 00705  | 1182 |
| 0400  | 0374 B  | 33977  |        | 2702 | 14710 | 0655    | 01112  | 1078 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 3950 | WAVES 1 2434 | AIR T      | VIS     |
| CONS. NO 011 | MONTH 5  | MXSAMPD 04   | WAVES 2 2334 | WET B      | STN C09 |
| LAT 49-26 N  | DAY 23   | NO.DPTH 14   | WND-DIR 240  | WW-CODE 01 |         |
| LON 136-40 W | HR 07.8  | W-COLOR      | WND-SPC 10   | CLD-TPE 6  |         |
| MARSD SQ 158 | C/I 1802 | W-TRNSP      | BARO 1001.9  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 078 | C000  | 079 B   | 32585 |        | 2542 | 14794 |
| 078 | 0010  | 0764    | 32580 |        | 2545 | 14785 |
| 078 | C019  | 0766    | 32578 |        | 2544 | 14788 |
| 078 | C029  | 0762    | 32577 |        | 2545 | 14788 |
| 078 | 0048  | 0658    | 32601 |        | 2561 | 14750 |
| 078 | C072  | 0575    | 32603 |        | 2571 | 14721 |
| 078 | C097  | 0560    | 32597 |        | 2573 | 14719 |
| 078 | 0121  | 0534    | 33095 |        | 2615 | 14719 |
| 078 | 0145  | 0508    | 33517 |        | 2651 | 14717 |
| 078 | 0170  | 0474    | 33676 |        | 2668 | 14710 |
| 078 | C194  | 0448    | 33746 |        | 2676 | 14704 |
| 078 | 0243  | 0415    | 33797 |        | 2684 | 14699 |
| 078 | 0292  | 0390    | 33831 |        | 2689 | 14697 |
| 078 | 0391  | 0385    | 33972 |        | 2701 | 14713 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0790 B  | 32585  |        | 2542 | 14794 | 0000    | 00000  | 2571 |
| 0010  | 0764    | 32580  |        | 2545 | 14785 | 0026    | 00001  | 2541 |
| 0020  | 0767    | 32578  |        | 2544 | 14788 | 0051    | 00005  | 2548 |
| 0030  | 0758    | 32578  |        | 2546 | 14786 | 0077    | 00012  | 2537 |
| 0050  | 0649    | 32602  |        | 2562 | 14747 | 0126    | 00032  | 2382 |
| 0075  | 0572    | 3259 C |        | 2571 | 14720 | 0185    | 00070  | 2303 |
| 0100  | 0557    | 3265 D |        | 2577 | 14719 | 0243    | 00121  | 2244 |
| 0125  | 0530    | 3318 B |        | 2622 | 14719 | 0294    | 00179  | 1820 |
| 0150  | 0501    | 3356 B |        | 2656 | 14716 | 0336    | 00238  | 1501 |
| 0175  | 0468    | 33695  |        | 2670 | 14708 | 0372    | 00298  | 1369 |
| 0200  | 0443    | 33756  |        | 2677 | 14703 | 0405    | 00362  | 1299 |
| 0225  | 0425    | 3379 B |        | 2682 | 14700 | 0438    | 00433  | 1259 |
| 0250  | 0411    | 33802  |        | 2684 | 14698 | 0469    | 00509  | 1235 |
| 0300  | 0389    | 3385 B |        | 2691 | 14698 | 0530    | 00681  | 1181 |
| 0400  | 0387    | 33986  |        | 2702 | 14715 | 0644    | 01090  | 1085 |



|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 2798 | WAVES 1 2633 | AIR T 08.3 | VIS     |
| CONS. NO 012 | MONTH 5  | MXSAMPD 04   | WAVES 2 2634 | WET B 06.2 | STN 008 |
| LAT 49-17 N  | DAY 23   | NO.DPTH 14   | WND-DIR 260  | WW-CODE 02 |         |
| LON 134-40 W | HR 13.9  | W-COLOR      | WND-SPC 12   | CLD-TPE 6  |         |
| MARSD SQ 158 | C/I 1802 | W-TRNSP      | BARO 1019.8  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 139 | C000  | 079 B   | 32592 |        | 2542 | 14794 |
| 139 | C010  | 0765    | 32586 |        | 2545 | 14786 |
| 139 | C020  | 0766    | 32586 |        | 2545 | 14788 |
| 139 | C030  | 0744    | 32643 |        | 2553 | 14782 |
| 139 | C050  | 0681    | 32645 |        | 2561 | 14760 |
| 139 | C075  | 0640    | 32645 |        | 2567 | 14748 |
| 139 | 0100  | 0640    | 33227 |        | 2612 | 14760 |
| 139 | 0125  | 0598    | 33554 |        | 2644 | 14751 |
| 139 | 0150  | 0573    | 33723 |        | 2660 | 14748 |
| 139 | 0175  | 0543    | 33774 |        | 2668 | 14740 |
| 139 | 0200  | 0503    | 33780 |        | 2673 | 14728 |
| 139 | 0250  | 0441    | 33794 |        | 2681 | 14711 |
| 139 | 0300  | 0400    | 33846 |        | 2689 | 14702 |
| 139 | 0400  | 0385    | 33979 |        | 2701 | 14714 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0790 B  | 32592 |        | 2542 | 14794 | 0000    | 00000  | 2566 |
| 0010  | 0765    | 32586 |        | 2545 | 14786 | 0026    | 00001  | 2538 |
| 0020  | 0766    | 32586 |        | 2545 | 14788 | 0051    | 00005  | 2541 |
| 0030  | 0744    | 32643 |        | 2553 | 14782 | 0076    | 00012  | 2470 |
| 0050  | 0681    | 32645 |        | 2561 | 14760 | 0125    | 00032  | 2390 |
| 0075  | 0640    | 32645 |        | 2567 | 14748 | 0185    | 00070  | 2342 |
| 0100  | 0640    | 33227 |        | 2612 | 14760 | 0238    | 00117  | 1910 |
| 0125  | 0598    | 33554 |        | 2644 | 14751 | 0283    | 00168  | 1618 |
| 0150  | 0573    | 33723 |        | 2660 | 14748 | 0322    | 00222  | 1465 |
| 0175  | 0543    | 33774 |        | 2668 | 14740 | 0358    | 00282  | 1394 |
| 0200  | 0503    | 33780 |        | 2673 | 14728 | 0392    | 00349  | 1346 |
| 0225  | 0469    | 33784 |        | 2677 | 14718 | 0426    | 00422  | 1308 |
| 0250  | 0441    | 33794 |        | 2681 | 14711 | 0458    | 00501  | 1273 |
| 0300  | 0400    | 33846 |        | 2689 | 14702 | 0520    | 00676  | 1195 |
| 0400  | 0385    | 33979 |        | 2701 | 14714 | 0636    | 01088  | 1088 |



|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 3438 | WAVES 1 2634 | AIR T 08.6 | VIS     |
| CONS. NO 013 | MONTH 5  | MXSAMPD 04   | WAVES 2 2644 | WET B 07.2 | STN 006 |
| LAT 49-02 N  | DAY 24   | NO.DPTH 14   | WND-DIR 260  | WW-CCDE 02 |         |
| LON 130-40 W | HR 02.0  | W-COLOR 10   | WND-SPD 11   | CLD-TPE 6  |         |
| MARSD SQ 158 | C/I 1802 | W-TRNSP 11   | BARO 1002.0  | CLD-AMT 6  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 020 | C000  | 097 B   | 32304 |        | 2492 | 14858 |
| 020 | C010  | 0955 B  | 32299 |        | 2494 | 14854 |
| 020 | C020  | 0956    | 32298 |        | 2494 | 14856 |
| 020 | C030  | 0840    | 32369 |        | 2517 | 14815 |
| 020 | C050  | 0716    | 32499 |        | 2545 | 14772 |
| 020 | C075  | 0685    | 32837 |        | 2576 | 14768 |
| 020 | 0100  | 0692 B  | 33187 |        | 2602 | 14780 |
| 020 | 0125  | 0688    | 33474 |        | 2626 | 14786 |
| 020 | 0150  | 0673    | 33716 |        | 2647 | 14788 |
| 020 | 0175  | 0654    | 33804 |        | 2656 | 14785 |
| 020 | 0200  | 0630    | 33849 |        | 2663 | 14780 |
| 020 | 0250  | 0584    | 33888 |        | 2672 | 14771 |
| 020 | 0300  | 0545    | 33935 |        | 2680 | 14764 |
| 020 | 0400  | 0509    | 34033 |        | 2692 | 14767 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0970 B  | 32304 |        | 2492 | 14858 | 0000    | C0000  | 3042 |
| 0010  | 0955 B  | 32299 |        | 2494 | 14854 | 0031    | 00002  | 3025 |
| 0020  | 0956    | 32298 |        | 2494 | 14856 | 0061    | 00006  | 3029 |
| 0030  | 0840    | 32369 |        | 2517 | 14815 | 0090    | C0014  | 2806 |
| 0050  | 0716    | 32499 |        | 2545 | 14772 | 0144    | 00035  | 2544 |
| 0075  | 0685    | 32837 |        | 2576 | 14768 | 0204    | 00074  | 2255 |
| 0100  | 0692 B  | 33187 |        | 2602 | 14780 | 0258    | 00121  | 2006 |
| 0125  | 0688    | 33474 |        | 2626 | 14786 | 0306    | C0176  | 1791 |
| 0150  | 0673    | 33716 |        | 2647 | 14788 | 0349    | 00236  | 1595 |
| 0175  | 0654    | 33804 |        | 2656 | 14785 | 0388    | 00301  | 1508 |
| 0200  | 0630    | 33849 |        | 2663 | 14780 | 0425    | 00373  | 1447 |
| 0225  | 0606    | 33872 |        | 2668 | 14775 | 0461    | 00451  | 1403 |
| 0250  | 0584    | 33888 |        | 2672 | 14771 | 0496    | 00536  | 1367 |
| 0300  | 0545    | 33935 |        | 2680 | 14764 | 0563    | 00725  | 1291 |
| 0400  | 0509    | 34033 |        | 2692 | 14767 | 0688    | 01171  | 1186 |

|              |          |              |              |         |         |
|--------------|----------|--------------|--------------|---------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH C 2176 | WAVES 1 2763 | AIR T   | VIS     |
| CONS. NO 014 | MONTH 5  | MXSAMPD 04   | WAVES 2 2585 | WET B   | STN 005 |
| LAT 48-51 N  | DAY 24   | NO.DPTH 14   | WND-DIR 270  | WW-CODE |         |
| LON 128-40 W | HR 08.4  | W-COLOR      | WND-SPD 09   | CLD-TPE |         |
| MARSD SQ 157 | C/I 1802 | W-TRNSP      | BARO 1019.7  | CLD-AMT | 4 HW    |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 084 | C000  | 105 B   | 32313 |        | 2479 | 14888 |
| 084 | C010  | 1030    | 32295 |        | 2481 | 14882 |
| 084 | C019  | 1027    | 32296 |        | 2482 | 14882 |
| 084 | C028  | 0900    | 32333 |        | 2505 | 14837 |
| 084 | C048  | 0793    | 32358 |        | 2523 | 14800 |
| 084 | C073  | 0705    | 32738 |        | 2565 | 14775 |
| 084 | C097  | 0691 B  | 33112 |        | 2597 | 14778 |
| 084 | 0121  | 0693    | 33411 |        | 2620 | 14787 |
| 084 | 0145  | 0704    | 33678 |        | 2639 | 14798 |
| 084 | 0169  | 0685    | 33796 |        | 2651 | 14796 |
| 084 | 0193  | 0673    | 33844 |        | 2657 | 14796 |
| 084 | 0243  | 0632    | 33929 |        | 2669 | 14789 |
| 084 | 0290  | 0576    | 33967 |        | 2679 | 14775 |
| 084 | 0388  | 0521    | 33994 |        | 2688 | 14769 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 1050 B  | 32313  |        | 2479 | 14888 | 0000    | 00000  | 3163 |
| 0010  | 1030    | 32295  |        | 2481 | 14882 | 0032    | 00002  | 3146 |
| 0020  | 1015 B  | 32300  |        | 2484 | 14878 | 0063    | 00006  | 3120 |
| 0030  | 0883 B  | 3233 B |        | 2508 | 14831 | 0093    | 00014  | 2896 |
| 0050  | 0784    | 3238 B |        | 2527 | 14797 | 0150    | 00037  | 2722 |
| 0075  | 0702    | 32770  |        | 2568 | 14774 | 0213    | 00077  | 2327 |
| 0100  | 0691 B  | 33152  |        | 2600 | 14779 | 0268    | 00126  | 2030 |
| 0125  | 0696    | 33462  |        | 2624 | 14789 | 0317    | 00181  | 1810 |
| 0150  | 0701    | 33712  |        | 2642 | 14799 | 0360    | 00242  | 1635 |
| 0175  | 0682    | 33812  |        | 2653 | 14796 | 0400    | 00309  | 1539 |
| 0200  | 0668    | 33858  |        | 2658 | 14796 | 0438    | 00382  | 1490 |
| 0225  | 0649    | 33902  |        | 2664 | 14793 | 0475    | 00462  | 1435 |
| 0250  | 0624    | 33936  |        | 2670 | 14787 | 0511    | 00549  | 1381 |
| 0300  | 0578 C  | 3398 B |        | 2680 | 14778 | 0578    | 00739  | 1297 |

C-REF-NO 003 YR 1967 DEPTH C 2596 WAVES 1 2833 AIR T 10.1 VIS 7  
 CONS. NO 015 MONTH 5 MXSAMPD 04 WAVES 2 2834 WET B 07.8 STN 004  
 LAT 48-46 N DAY 24 NO.DPTH 14 WND-DIR 280 WW-CODE 15  
 LON 127-40 W HR 12.6 W-COLOR WND-SPD 10 CLD-TPE 5  
 MARSD SQ 157 C/I 1802 W-TRNSP BARO 1002.0 CLD-AMT 4 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 126 | 0000  | 114 B   | 31586 |        | 2407 | 14911 |
| 126 | 0010  | 1122    | 31566 |        | 2409 | 14906 |
| 126 | 0020  | 1010    | 32217 |        | 2479 | 14875 |
| 126 | 0030  | 0928    | 32367 |        | 2504 | 14848 |
| 126 | 0050  | 0794    | 32419 |        | 2528 | 14801 |
| 126 | 0075  | 0746    | 32731 |        | 2559 | 14791 |
| 126 | 0100  | 0755    | 33230 |        | 2597 | 14805 |
| 126 | 0125  | 0744    | 33513 |        | 2621 | 14809 |
| 126 | 0150  | 0725    | 33731 |        | 2641 | 14808 |
| 126 | 0175  | 0693    | 33807 |        | 2651 | 14801 |
| 126 | 0200  | 0661    | 33851 |        | 2659 | 14793 |
| 126 | 0250  | 0591    | 33881 |        | 2670 | 14773 |
| 126 | 0300  | 0538    | 33915 |        | 2679 | 14761 |
| 126 | 0400  | 0468    | 33995 |        | 2694 | 14749 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1140 B  | 31586 |        | 2407 | 14911 | 0000    | 00000  | 3850 |
| 0010  | 1122    | 31566 |        | 2409 | 14906 | 0039    | 00002  | 3836 |
| 0020  | 1010    | 32217 |        | 2479 | 14875 | 0074    | 00007  | 3173 |
| 0030  | 0928    | 32367 |        | 2504 | 14848 | 0105    | 00015  | 2937 |
| 0050  | 0794    | 32419 |        | 2528 | 14801 | 0161    | 00038  | 2708 |
| 0075  | 0746    | 32731 |        | 2559 | 14791 | 0226    | 00079  | 2414 |
| 0100  | 0755    | 33230 |        | 2597 | 14805 | 0282    | 00129  | 2058 |
| 0125  | 0744    | 33513 |        | 2621 | 14809 | 0331    | 00185  | 1836 |
| 0150  | 0725    | 33731 |        | 2641 | 14808 | 0375    | 00247  | 1652 |
| 0175  | 0693    | 33807 |        | 2651 | 14801 | 0415    | 00314  | 1557 |
| 0200  | 0661    | 33851 |        | 2659 | 14793 | 0454    | 00388  | 1485 |
| 0225  | 0625    | 33871 |        | 2665 | 14783 | 0490    | 00468  | 1429 |
| 0250  | 0591    | 33881 |        | 2670 | 14773 | 0526    | 00554  | 1381 |
| 0300  | 0538    | 33915 |        | 2679 | 14761 | 0593    | 00744  | 1297 |
| 0400  | 0468    | 33995 |        | 2694 | 14749 | 0718    | 01187  | 1167 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 003 | YR 1967  | DEPTH 109  | WAVES 1 31  | AIR T      | VIS     |
| CONS. NO 016 | MONTH 5  | MXSAMPD 01 | WAVES 2 34  | WET B      | STN 002 |
| LAT 48-38 N  | DAY 24   | NO.DPTH 7  | WND-DIR 280 | WW-CODE 01 |         |
| LON 126-00 W | HR 18.8  | W-COLOR 50 | WND-SPD 06  | CLD-TPE 8  |         |
| MARSD SQ 157 | C/I 1802 | W-TRNSP    | BARO 1021.5 | CLD-AMT 3  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 188 | 0000  | 123 B   | 31396 |        | 2376 | 14940 |
| 188 | 0010  |         | 31390 |        | 2387 | 14920 |
| 188 | 0020  | 1128 B  | 31649 |        | 2414 | 14911 |
| 188 | 0030  | 0863    | 32103 |        | 2493 | 14821 |
| 188 | 0050  | 0776    | 32410 |        | 2530 | 14794 |
| 188 | 0075  | 0765    | 32658 |        | 2551 | 14797 |
| 188 | 0100  | 0712    | 33751 |        | 2644 | 14795 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1230 B  | 31396 |        | 2376 | 14940 | 0000    | 00000  | 4147 |
| 0010  |         | 31390 |        | 2387 | 14920 | 0041    | 00002  | 4048 |
| 0020  | 1128 B  | 31649 |        | 2414 | 14911 | 0081    | 00008  | 3787 |
| 0030  | 0863    | 32103 |        | 2493 | 14821 | 0115    | 00017  | 3037 |
| 0050  | 0776    | 32410 |        | 2530 | 14794 | 0172    | 00040  | 2690 |
| 0075  | 0765    | 32658 |        | 2551 | 14797 | 0238    | 00081  | 2494 |
| 0100  | 0712    | 33751 |        | 2644 | 14795 | 0289    | 00126  | 1612 |

## SECTION IV

Bathythermograms





EXPLANATION OF DATA HEADINGS IN TABLES 1 AND 2

CON No:                   The consecutive BT slide number.

LAT:    ) Deg  
          ) Min                   Position of platform at the time of BT lowering.  
LONG:    )

DATE: Day               Day  
      Mon               Month  
      Yr                Year

GMT: Hrs               The Greenwich Mean Time at which the BT lowering  
      Min                               was made.

DEPTH: Metres           Depth to bottom in meters, as read from U.S.  
                          Coast and Geodetic Survey Chart 8500.

BAR: Mbs                Barometric pressure; prefix all listed  
                          values by 10, or by 9 if a minus (-) sign  
                          is present to obtain the pressure in whole  
                          millibars.

eg. 02 = 1002 mbs  
      17 = 1017 mbs  
     -98 = 998 mbs  
     -86 = 986 mbs

WW Code:               Refer to Table 7, Section II.

WIND Amt:               Wind speed in meters per second.

W-1:    ) P  
          ) H                   Waves 1 and 2. Refer to Tables 4&5, Section II.  
W-2:    )

CLOUD: T               Refer to Tables 8&9, Section II.  
      A



CCGS "VANCOUVER" P-67-2

BATHYTHERMOGRAMS



TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 1         | 48  | 33  | 125  | 32  | 08   | 04  | 67 | 00  | 30  | 0128            | 14         | 02         | 15          | 22  | 34 | 7   | 7 |       |   |
| 2         | 48  | 38  | 126  | 00  | 08   | 04  | 67 | 02  | 00  | 0113            | 14         | 02         | 20          | 23  | 34 | 7   | 7 |       |   |
| 3         | 49  | 00  | 130  | 40  | 08   | 04  | 67 | 14  | 45  | 3438            | 12         | 15         | 15          | 22  | 23 | 4   | 5 |       |   |
| 4         | 49  | 05  | 131  | 40  | 08   | 04  | 67 | 18  | 00  | 2926            | 12         | 15         | 20          | 23  | 23 | 5   | 6 |       |   |
| 5         | 49  | 09  | 132  | 40  | 08   | 04  | 67 | 22  | 15  | 3237            | 12         | 05         | 30          | 33  | 23 | 8   | 3 |       |   |
| 6         | 49  | 15  | 133  | 40  | 09   | 04  | 67 | 04  | 00  | 2926            | 12         | 62         | 20          | 35  | 47 | 9   | 4 |       |   |
| 7         | 49  | 17  | 134  | 40  | 09   | 04  | 67 | 08  | 00  | 2798            | 12         | 15         | 15          | 34  | 44 | 9   | 4 |       |   |
| 8         | 49  | 23  | 135  | 40  | 09   | 04  | 67 | 12  | 00  | 3914            | 10         | 84         | 15          | 34  | 44 | X   | 8 |       |   |
| 9         | 49  | 26  | 136  | 40  | 09   | 04  | 67 | 15  | 15  | 3658            | 12         | 86         | 16          | 34  | 46 | 5   | 4 |       |   |
| 10        | 49  | 30  | 137  | 40  | 09   | 04  | 67 | 19  | 00  | 3950            | 10         | 86         | 15          | 34  | 46 | 5   | 7 |       |   |
| 11        | 49  | 38  | 139  | 40  | 10   | 04  | 67 | 02  | 50  | 3255            | 16         | 01         | 20          | 34  | 46 | 6   | 4 |       |   |
| 12        | 49  | 41  | 140  | 40  | 10   | 04  | 67 | 07  | 00  | 2743            | 18         | 02         | 20          | 34  | 46 | 5   | 4 |       |   |
| 13        | 49  | 46  | 141  | 40  | 10   | 04  | 67 | 11  | 15  | 4042            | 18         | 03         | 13          | 32  | 43 | X   | 9 |       |   |
| 14        | 49  | 49  | 142  | 40  | 10   | 04  | 67 | 15  | 45  | 4023            | 19         | 11         | 15          | 22  | 34 | X   | 9 |       |   |
| 15        | 49  | 54  | 143  | 40  | 10   | 04  | 67 | 23  | 50  | 4023            | 20         | 11         | 25          | 22  | 33 | 7   | 8 |       |   |
| 16        | 49  | 56  | 145  | 01  | 11   | 04  | 67 | 18  | 00  | 4023            |            |            |             |     |    |     |   |       |   |
| 17        | 50  | 08  | 145  | 08  | 14   | 04  | 67 | 18  | 00  | 4023            | 29         | 25         | 20          | 34  | 35 | 8   | 7 |       |   |
| 18        | 50  | 02  | 145  | 03  | 14   | 04  | 67 | 20  | 00  | 4023            | 12         | 03         | 25          | 22  | 34 | 0   | 2 |       |   |
| 19        | 50  | 03  | 145  | 04  | 14   | 04  | 67 | 21  | 00  | 4023            | 29         | 02         | 21          | 33  | 44 | 6   | 7 |       |   |
| 20        | 50  | 03  | 145  | 02  | 15   | 04  | 67 | 00  | 00  | 4023            | 12         | 80         | 25          | 22  | 34 | 0   | 5 |       |   |
| 21        | 49  | 58  | 144  | 52  | 15   | 04  | 67 | 03  | 00  | 4023            | 27         | 02         | 22          | 36  | XX | 6   | 8 |       |   |
| 22        | 50  | 02  | 144  | 52  | 15   | 04  | 67 | 06  | 00  | 4023            | 26         | 02         | 25          | 36  | XX | 6   | 8 |       |   |
| 23        | 49  | 53  | 144  | 38  | 15   | 04  | 67 | 12  | 00  | 4023            | 22         | 02         | 29          | 35  | XX | 6   | 8 |       |   |
| 24        | 49  | 44  | 144  | 36  | 15   | 04  | 67 | 15  | 00  | 4023            | 25         | 02         | 26          | 36  | XX | 8   | 7 |       |   |
| 25        | 49  | 50  | 144  | 52  | 15   | 04  | 67 | 18  | 00  | 4023            | 27         | 02         | 29          | 36  | XX | 6   | 4 |       |   |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |       |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-------|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Month | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | I     | A |
| 26        | 49  | 52  | 145  | 00  | 15   | 04    | 67 | 21  | 00  | 4022            | 28         | 02         | 25          | 36  | XX |     |   | 6     | 6 |
| 27        | 49  | 59  | 145  | 10  | 16   | 04    | 67 | 00  | 00  | 4023            | 27         | 02         | 24          | 36  | XX |     |   | 6     | 6 |
| 28        | 49  | 46  | 144  | 57  | 16   | 04    | 67 | 06  | 00  | 4023            | 28         | 02         | 30          | 36  | XX |     |   | 6     | 8 |
| 29        | 49  | 48  | 145  | 03  | 16   | 04    | 67 | 09  | 00  | 4023            | 31         | 01         | 23          | 36  | XX |     |   | 6     | 5 |
| 30        | 50  | 00  | 145  | 09  | 16   | 04    | 67 | 12  | 00  | 4023            | 31         | 02         | 28          | 36  | XX |     |   | 6     | 6 |
| 31        | 49  | 57  | 145  | 15  | 16   | 04    | 67 | 15  | 00  | 4023            | 32         | 01         | 26          | 36  | XX |     |   | 6     | 2 |
| 32        | 50  | 10  | 145  | 22  | 16   | 04    | 67 | 18  | 00  | 4023            | 34         | 02         | 29          | 36  | XX |     |   | 6     | 2 |
| 33        | 50  | 12  | 145  | 09  | 16   | 04    | 67 | 21  | 00  | 4023            | 35         | 02         | 32          | 36  | XX |     |   | 8     | 1 |
| 34        | 49  | 58  | 145  | 08  | 17   | 04    | 67 | 00  | 00  | 4023            | 35         | 02         | 24          | 35  | XX |     |   | 8     | 1 |
| 35        | 49  | 45  | 144  | 52  | 17   | 04    | 67 | 04  | 00  | 4023            | 36         | 03         | 27          | 35  | XX |     |   | 6     | 4 |
| 36        | 49  | 47  | 144  | 51  | 17   | 04    | 67 | 06  | 00  | 4023            | 37         | 01         | 21          | 35  | XX |     |   | 6     | 2 |
| 37        | 49  | 54  | 144  | 52  | 17   | 04    | 67 | 09  | 00  | 4023            | 37         | 02         | 21          | 35  | XX |     |   | 6     | 4 |
| 38        | 49  | 58  | 144  | 55  | 17   | 04    | 67 | 12  | 00  | 4023            | 38         | 02         | 18          | 34  | XX |     |   | 6     | 1 |
| 39        | 50  | 03  | 144  | 55  | 17   | 04    | 67 | 15  | 00  | 4023            | 38         | 02         | 22          | 34  | XX |     |   | 7     | 2 |
| 40        | 50  | 10  | 144  | 54  | 17   | 04    | 67 | 18  | 00  | 4023            | 38         | 02         | 18          | 23  | 33 |     |   | 0     | 0 |
| 41        | 50  | 11  | 144  | 54  | 17   | 04    | 67 | 19  | 00  | 4023            | 35         | 00         | 20          | 33  | 33 |     |   | 0     | 1 |
| 42        | 50  | 15  | 145  | 00  | 17   | 04    | 67 | 21  | 00  | 4023            | 38         | 03         | 17          | 23  | XX |     |   | 3     | 7 |
| 43        | 50  | 12  | 145  | 00  | 18   | 04    | 67 | 00  | 00  | 4023            | 38         | 02         | 17          | 23  | 34 |     |   | 6     | 7 |
| 44        | 50  | 05  | 145  | 01  | 18   | 04    | 67 | 03  | 00  | 4023            | 37         | 03         | 16          | 24  | XX |     |   | 6     | 8 |
| 45        | 50  | 12  | 145  | 00  | 18   | 04    | 67 | 06  | 00  | 4023            | 37         | 02         | 14          | 34  | XX |     |   | 6     | 7 |
| 46        | 50  | 04  | 144  | 51  | 18   | 04    | 67 | 09  | 00  | 4023            | 36         | 01         | 14          | 33  | XX |     |   | 0     | 0 |
| 47        | 50  | 02  | 144  | 57  | 18   | 04    | 67 | 12  | 00  | 4023            | 35         | 03         | 12          | 33  | 33 |     |   | 6     | 7 |
| 48        | 50  | 03  | 144  | 47  | 18   | 04    | 67 | 15  | 00  | 4023            | 33         | 02         | 18          | 34  | 34 |     |   | 6     | 8 |
| 49        | 49  | 55  | 144  | 44  | 18   | 04    | 67 | 18  | 00  | 4023            | 33         | 02         | 20          | 23  | 34 |     |   | 6     | 8 |
| 50        | 49  | 54  | 144  | 40  | 18   | 04    | 67 | 21  | 00  | 4023            | 33         | 02         | 18          | 34  | 33 |     |   | 6     | 8 |



TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 51        | 49  | 45  | 144  | 40  | 19   | 04  | 67 | 00  | 00  | 4023            | 32         | 02         | 23          | 34  | 33 | 6   | 8 |       |   |
| 52        | 50  | 00  | 144  | 57  | 19   | 04  | 67 | 06  | 00  | 4023            | 33         | 02         | 26          | 33  | XX | 6   | 8 |       |   |
| 53        | 50  | 17  | 145  | 08  | 19   | 04  | 67 | 09  | 00  | 4023            | 33         | 02         | 23          | 33  | XX | 6   | 8 |       |   |
| 54        | 50  | 10  | 145  | 10  | 19   | 04  | 67 | 12  | 00  | 4023            | 33         | 01         | 18          | 34  | XX | 6   | 2 |       |   |
| 55        | 50  | 05  | 145  | 08  | 19   | 04  | 67 | 15  | 00  | 4023            | 33         | 03         | 16          | 33  | XX | 7   | 4 |       |   |
| 56        | 50  | 00  | 145  | 00  | 19   | 04  | 67 | 18  | 00  | 4023            | 33         | 02         | 16          | 33  | XX | 6   | 2 |       |   |
| 57        | 49  | 58  | 145  | 00  | 19   | 04  | 67 | 21  | 00  | 4023            | 33         | 03         | 19          | 34  | 32 | 6   | 3 |       |   |
| 58        | 49  | 54  | 144  | 56  | 20   | 04  | 67 | 00  | 00  | 4023            | 33         | 02         | 18          | 34  | 32 | 6   | 7 |       |   |
| 59        | 49  | 50  | 144  | 52  | 20   | 04  | 67 | 03  | 00  | 4023            | 32         | 02         | 23          | 23  | 33 | 6   | 7 |       |   |
| 60        | 49  | 50  | 144  | 57  | 20   | 04  | 67 | 06  | 00  | 4023            | 32         | 02         | 17          | 33  | 32 | 6   | 8 |       |   |
| 61        | 49  | 47  | 145  | 00  | 20   | 04  | 67 | 09  | 00  | 4023            | 31         | 02         | 17          | 32  | 32 | 6   | 8 |       |   |
| 62        | 49  | 40  | 145  | 02  | 20   | 04  | 67 | 12  | 00  | 4023            | 31         | 02         | 16          | 32  | XX | 6   | 8 |       |   |
| 63        | 49  | 35  | 145  | 00  | 20   | 04  | 67 | 15  | 00  | 4023            | 31         | 02         | 16          | 32  | 32 | 6   | 8 |       |   |
| 64        | 49  | 31  | 145  | 06  | 20   | 04  | 67 | 18  | 00  | 4023            | 30         | 02         | 14          | 22  | 32 | 6   | 8 |       |   |
| 65        | 49  | 27  | 145  | 06  | 20   | 04  | 67 | 21  | 00  | 4023            | 30         | 02         | 09          | 22  | 32 | 6   | 8 |       |   |
| 66        | 49  | 31  | 145  | 08  | 21   | 04  | 67 | 00  | 00  | 4023            | 29         | 02         | 12          | 22  | 32 | 6   | 8 |       |   |
| 67        | 49  | 45  | 145  | 07  | 21   | 04  | 67 | 03  | 00  | 4023            | 27         | 02         | 11          | 22  | 32 | 6   | 8 |       |   |
| 68        | 50  | 04  | 145  | 01  | 21   | 04  | 67 | 06  | 00  | 4023            | 24         | 02         | 08          | 22  | XX | 6   | 8 |       |   |
| 69        | 50  | 04  | 145  | 01  | 21   | 04  | 67 | 09  | 00  | 4023            | 21         | 61         | 06          | 22  | 22 | 7   | 8 |       |   |
| 70        | 50  | 04  | 145  | 01  | 21   | 04  | 67 | 12  | 00  | 4023            | 18         | 21         | 10          | 22  | 22 | 7   | 8 |       |   |
| 71        | 50  | 07  | 145  | 00  | 21   | 04  | 67 | 15  | 00  | 4023            | 17         | 47         | 03          | 22  | XX | X   | 9 |       |   |
| 72        | 50  | 04  | 145  | 04  | 21   | 04  | 67 | 18  | 00  | 4023            | 18         | 51         | 18          | 23  | XX | 7   | 7 |       |   |
| 73        | 50  | 01  | 145  | 06  | 21   | 04  | 67 | 21  | 00  | 4023            | 20         | 10         | 23          | 22  | 33 | 6   | 8 |       |   |
| 74        | 49  | 58  | 145  | 05  | 22   | 04  | 67 | 00  | 00  | 4023            | 21         | 02         | 22          | 34  | 33 | 6   | 8 |       |   |
| 75        | 50  | 12  | 145  | 00  | 22   | 04  | 67 | 06  | 00  | 4023            | 23         | 02         | 31          | 35  | XX | 8   | 5 |       |   |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 76        | 50  | 08  | 144  | 57  | 22   | 04  | 67 | 09  | 00  | 4023            | 23         | 03         | 25          | 36  | XX | 6   | 7 |       |   |
| 77        | 50  | 11  | 144  | 55  | 22   | 04  | 67 | 12  | 00  | 4023            | 23         | 02         | 22          | 34  | XX | 8   | 7 |       |   |
| 78        | 49  | 57  | 144  | 52  | 22   | 04  | 67 | 15  | 00  | 4023            | 25         | 02         | 23          | 34  | XX | 6   | 7 |       |   |
| 79        | 50  | 02  | 144  | 57  | 22   | 04  | 67 | 18  | 00  | 4023            | 26         | 02         | 21          | 34  | 33 | 6   | 7 |       |   |
| 80        | 50  | 08  | 144  | 56  | 22   | 04  | 67 | 21  | 00  | 4023            | 26         | 02         | 21          | 34  | 33 | 6   | 7 |       |   |
| 81        | 50  | 14  | 144  | 53  | 23   | 04  | 67 | 00  | 00  | 4023            | 27         | 02         | 17          | 44  | 33 | 6   | 7 |       |   |
| 82        | 50  | 14  | 144  | 53  | 23   | 04  | 67 | 03  | 00  | 4023            | 27         | 02         | 12          | 33  | 45 | 6   | 7 |       |   |
| 83        | 50  | 10  | 144  | 53  | 23   | 04  | 67 | 06  | 00  | 4023            | 28         | 02         | 18          | 33  | XX | 6   | 8 |       |   |
| 84        | 50  | 05  | 144  | 51  | 23   | 04  | 67 | 09  | 00  | 4023            | 28         | 02         | 14          | 33  | XX | 6   | 8 |       |   |
| 85        | 50  | 00  | 144  | 52  | 23   | 04  | 67 | 12  | 00  | 4023            | 28         | 27         | 17          | 33  | XX | 6   | 8 |       |   |
| 86        | 49  | 58  | 144  | 47  | 23   | 04  | 67 | 15  | 00  | 4023            | 28         | 02         | 16          | 33  | XX | 6   | 8 |       |   |
| 87        | 49  | 58  | 144  | 46  | 23   | 04  | 67 | 18  | 00  | 4023            | 28         | 02         | 16          | 33  | 33 | 6   | 7 |       |   |
| 88        | 49  | 58  | 144  | 55  | 23   | 04  | 67 | 21  | 00  | 4023            | 29         | 02         | 14          | 33  | 33 | 6   | 7 |       |   |
| 89        | 50  | 00  | 144  | 52  | 24   | 04  | 67 | 00  | 00  | 4023            | 28         | 25         | 19          | 33  | 32 | 9   | 7 |       |   |
| 90        | 50  | 00  | 144  | 48  | 24   | 04  | 67 | 03  | 00  | 4023            | 27         | 02         | 22          | 33  | 32 | 6   | 7 |       |   |
| 91        | 49  | 57  | 144  | 45  | 24   | 04  | 67 | 06  | 00  | 4023            | 24         | 02         | 25          | 33  | 33 | 8   | 7 |       |   |
| 92        | 49  | 58  | 144  | 37  | 24   | 04  | 67 | 09  | 00  | 4023            | 22         | 02         | 25          | 33  | 33 | 8   | 7 |       |   |
| 93        | 49  | 59  | 144  | 52  | 24   | 04  | 67 | 12  | 00  | 4023            | 21         | 01         | 27          | 34  | XX | 8   | 6 |       |   |
| 94        | 49  | 52  | 145  | 01  | 24   | 04  | 67 | 15  | 00  | 4023            | 21         | 25         | 23          | 34  | 33 | 8   | 6 |       |   |
| 95        | 50  | 00  | 145  | 02  | 24   | 04  | 67 | 18  | 00  | 4023            | 21         | 15         | 22          | 34  | 33 | 8   | 4 |       |   |
| 96        | 49  | 56  | 145  | 01  | 24   | 04  | 67 | 21  | 00  | 4023            | 23         | 15         | 21          | 34  | 33 | 8   | 4 |       |   |
| 97        | 49  | 55  | 145  | 00  | 25   | 04  | 67 | 00  | 00  | 4023            | 24         | 02         | 24          | 35  | 33 | 8   | 4 |       |   |
| 98        | 50  | 04  | 145  | 02  | 25   | 04  | 67 | 03  | 00  | 4023            | 24         | 03         | 23          | 35  | XX | 8   | 3 |       |   |
| 99        | 50  | 07  | 145  | 02  | 25   | 04  | 67 | 06  | 00  | 4023            | 25         | 02         | 24          | 35  | XX | 8   | 6 |       |   |
| 100       | 50  | 00  | 145  | 00  | 25   | 04  | 67 | 09  | 00  | 4023            | 25         | 02         | 19          | 35  | XX | 8   | 4 |       |   |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | I     | A |
| 101       | 50  | 02  | 144  | 56  | 25   | 04  | 67 | 12  | 00  | 4023            | 25         | 03         | 24          | 35  | XX |     |   | 8     | 6 |
| 102       | 50  | 00  | 144  | 55  | 25   | 04  | 67 | 15  | 00  | 4023            | 26         | 02         | 20          | 34  | XX |     |   | 8     | 7 |
| 103       | 49  | 55  | 144  | 52  | 25   | 04  | 67 | 18  | 00  | 4023            | 28         | 01         | 18          | 33  | 32 |     |   | 8     | 4 |
| 104       | 49  | 48  | 144  | 54  | 25   | 04  | 67 | 21  | 00  | 4023            | 28         | 02         | 20          | 33  | 32 |     |   | 8     | 4 |
| 105       | 49  | 45  | 144  | 53  | 26   | 04  | 67 | 00  | 00  | 4023            | 29         | 02         | 20          | 33  | 42 |     |   | 8     | 4 |
| 106       | 49  | 45  | 144  | 57  | 26   | 04  | 67 | 03  | 00  | 4023            | 30         | 01         | 18          | 33  | 32 |     |   | 6     | 2 |
| 107       | 49  | 54  | 145  | 00  | 26   | 04  | 67 | 06  | 00  | 4023            | 30         | 02         | 12          | 33  | XX |     |   | 6     | 2 |
| 108       | 50  | 04  | 145  | 02  | 26   | 04  | 67 | 09  | 00  | 4023            | 31         | 02         | 14          | 33  | XX |     |   | 8     | 2 |
| 109       | 49  | 58  | 144  | 52  | 26   | 04  | 67 | 12  | 00  | 4023            | 31         | 02         | 12          | 32  | XX |     |   | 8     | 2 |
| 110       | 50  | 02  | 145  | 01  | 26   | 04  | 67 | 15  | 00  | 4023            | 31         | 15         | 11          | 32  | XX |     |   | 6     | 4 |
| 111       | 50  | 00  | 145  | 02  | 26   | 04  | 67 | 18  | 00  | 4023            | 32         | 02         | 12          | 22  | 32 |     |   | 6     | 4 |
| 112       | 49  | 55  | 145  | 07  | 26   | 04  | 67 | 21  | 00  | 4023            | 31         | 01         | 08          | 21  | 22 |     |   | 6     | 3 |
| 113       | 50  | 00  | 145  | 09  | 27   | 04  | 67 | 00  | 00  | 4023            | 30         | 02         | 06          | 20  | 32 |     |   | 8     | 4 |
| 114       | 49  | 53  | 145  | 05  | 27   | 04  | 67 | 03  | 00  | 4023            | 30         | 02         | 07          | 21  | 32 |     |   | 6     | 2 |
| 115       | 49  | 49  | 145  | 05  | 27   | 04  | 67 | 06  | 00  | 4023            | 30         | 02         | 13          | 22  | 32 |     |   | 3     | 2 |
| 116       | 50  | 01  | 145  | 05  | 27   | 04  | 67 | 09  | 00  | 4023            | 29         | 02         | 03          | 21  | 22 |     |   | 6     | 3 |
| 117       | 50  | 01  | 145  | 05  | 27   | 04  | 67 | 12  | 00  | 4023            | 29         | 02         | 07          | 21  | 22 |     |   | X     | 0 |
| 118       | 50  | 05  | 145  | 08  | 27   | 04  | 67 | 14  | 00  | 4023            | 25         | 00         | 03          | X0  | 41 |     |   | 2     | 1 |
| 119       | 50  | 07  | 145  | 10  | 27   | 04  | 67 | 18  | 00  | 4023            | 29         | 02         | 02          | 20  | 21 |     |   | 0     | 1 |
| 120       | 50  | 08  | 145  | 07  | 27   | 04  | 67 | 21  | 00  | 4023            | 29         | 03         | 04          | 20  | 21 |     |   | 0     | 6 |
| 121       | 50  | 04  | 145  | 11  | 28   | 04  | 67 | 00  | 00  | 4023            | 28         | 02         | 05          | 20  | 32 |     |   | 2     | 6 |
| 122       | 50  | 06  | 145  | 13  | 28   | 04  | 67 | 03  | 00  | 4023            | 27         | 02         | 10          | 21  | 32 |     |   | 2     | 7 |
| 123       | 50  | 08  | 145  | 15  | 28   | 04  | 67 | 06  | 00  | 4023            | 27         | 02         | 11          | 22  | XX |     |   | 3     | 5 |
| 124       | 50  | 09  | 145  | 10  | 28   | 04  | 67 | 09  | 00  | 4023            | 26         | 03         | 13          | 22  | XX |     |   | 6     | 8 |
| 125       | 50  | 12  | 145  | 12  | 28   | 04  | 67 | 12  | 00  | 4023            | 25         | 02         | 15          | 23  | XX |     |   | 6     | 8 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 126       | 50  | 15  | 145  | 06  | 28   | 04  | 67 | 15  | 00  | 4023            | 23         | 02         | 17          | 33  | 22 | 3   | 8 |       |   |
| 127       | 50  | 01  | 144  | 59  | 28   | 04  | 67 | 18  | 00  | 4023            | 23         | 02         | 20          | 34  | 32 | 6   | 8 |       |   |
| 128       | 50  | 10  | 145  | 03  | 28   | 04  | 67 | 21  | 00  | 4023            | 21         | 61         | 17          | 33  | 33 | 4   | 8 |       |   |
| 129       | 50  | 07  | 145  | 02  | 29   | 04  | 67 | 00  | 00  | 4023            | 20         | 61         | 12          | 33  | 33 | 4   | 8 |       |   |
| 130       | 49  | 57  | 144  | 59  | 29   | 04  | 67 | 03  | 00  | 4023            | 18         | 61         | 19          | 33  | 34 | 5   | 8 |       |   |
| 131       | 49  | 58  | 144  | 58  | 29   | 04  | 67 | 06  | 00  | 4023            | 18         | 61         | 16          | 33  | 34 | 7   | 8 |       |   |
| 132       | 50  | 02  | 145  | 03  | 29   | 04  | 67 | 09  | 00  | 4023            | 17         | 61         | 16          | 34  | 33 | 3   | 8 |       |   |
| 133       | 50  | 10  | 145  | 05  | 29   | 04  | 67 | 12  | 00  | 4023            | 15         | 61         | 16          | 34  | XX | 7   | 8 |       |   |
| 134       | 50  | 07  | 145  | 10  | 29   | 04  | 67 | 15  | 00  | 4023            | 15         | 61         | 13          | 33  | 33 | X   | 9 |       |   |
| 135       | 49  | 59  | 144  | 57  | 29   | 04  | 67 | 18  | 00  | 4023            | 16         | 61         | 15          | 33  | 33 | 7   | 8 |       |   |
| 136       | 50  | 03  | 144  | 55  | 29   | 04  | 67 | 21  | 00  | 4023            | 16         | 61         | 17          | 33  | 32 | 7   | 8 |       |   |
| 137       | 50  | 08  | 144  | 52  | 30   | 04  | 67 | 00  | 00  | 4023            | 14         | 61         | 20          | 22  | 32 | X   | 9 |       |   |
| 138       | 50  | 13  | 144  | 53  | 30   | 04  | 67 | 03  | 00  | 4023            | 14         | 61         | 16          | 22  | 33 | X   | 9 |       |   |
| 139       | 50  | 10  | 144  | 56  | 30   | 04  | 67 | 06  | 00  | 4023            | 14         | 61         | 21          | 33  | 33 | 7   | 8 |       |   |
| 140       | 49  | 56  | 144  | 54  | 30   | 04  | 67 | 09  | 00  | 4023            | 15         | 61         | 15          | 33  | XX | 7   | 8 |       |   |
| 141       | 50  | 01  | 145  | 07  | 30   | 04  | 67 | 12  | 00  | 4023            | 16         | 61         | 10          | 22  | XX | 7   | 8 |       |   |
| 142       | 50  | 04  | 145  | 13  | 30   | 04  | 67 | 15  | 00  | 4023            | 17         | 61         | 08          | 22  | 33 | 7   | 8 |       |   |
| 143       | 50  | 02  | 145  | 02  | 30   | 04  | 67 | 18  | 00  | 4023            | 19         | 51         | 05          | 21  | 33 | X   | 9 |       |   |
| 144       | 49  | 54  | 145  | 03  | 30   | 04  | 67 | 21  | 00  | 4023            | 19         | 51         | 12          | 22  | 33 | 7   | 8 |       |   |
| 145       | 50  | 04  | 145  | 08  | 01   | 05  | 67 | 00  | 00  | 4023            | 19         | 20         | 16          | 22  | 22 | 7   | 8 |       |   |
| 146       | 50  | 04  | 145  | 10  | 01   | 05  | 67 | 03  | 00  | 4023            | 18         | 61         | 19          | 23  | XX | 7   | 8 |       |   |
| 147       | 50  | 05  | 145  | 15  | 01   | 05  | 67 | 06  | 00  | 4023            | 18         | 61         | 19          | 23  | XX | 7   | 8 |       |   |
| 148       | 49  | 58  | 145  | 03  | 01   | 05  | 67 | 09  | 00  | 4023            | 16         | 10         | 28          | 34  | 23 | 7   | 8 |       |   |
| 149       | 49  | 58  | 144  | 54  | 01   | 05  | 67 | 12  | 00  | 4023            | 15         | 61         | 28          | 35  | XX | 7   | 8 |       |   |
| 150       | 50  | 01  | 144  | 50  | 01   | 05  | 67 | 15  | 00  | 4023            | 17         | 44         | 14          | 33  | XX | 8   | 8 |       |   |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 151       | 50  | 07  | 144  | 56  | 01   | 05  | 67 | 18  | 00  | 4023            | 21         | 47         | 13          | 34  | 33 |     |   | X     | 9 |
| 152       | 50  | 05  | 144  | 59  | 01   | 05  | 67 | 21  | 00  | 4023            | 23         | 10         | 13          | 22  | 34 |     |   | 7     | 8 |
| 153       | 50  | 08  | 145  | 01  | 02   | 05  | 67 | 00  | 00  | 4023            | 24         | 01         | 10          | 21  | 33 |     |   | 3     | 5 |
| 154       | 50  | 13  | 145  | 02  | 02   | 05  | 67 | 03  | 00  | 4023            | 25         | 02         | 16          | 22  | 33 |     |   | 7     | 8 |
| 155       | 50  | 00  | 145  | 02  | 02   | 05  | 67 | 06  | 00  | 4023            | 26         | 10         | 19          | 33  | 33 |     |   | 7     | 8 |
| 156       | 49  | 59  | 145  | 10  | 02   | 05  | 67 | 09  | 00  | 4023            | 27         | 10         | 20          | 33  | XX |     |   | 6     | 8 |
| 157       | 49  | 58  | 145  | 01  | 02   | 05  | 67 | 12  | 00  | 4023            | 28         | 10         | 09          | 32  | XX |     |   | 7     | 8 |
| 158       | 50  | 03  | 145  | 02  | 02   | 05  | 67 | 15  | 00  | 4023            | 29         | 02         | 16          | 22  | 33 |     |   | 7     | 8 |
| 159       | 50  | 07  | 145  | 05  | 02   | 05  | 67 | 18  | 00  | 4023            | 29         | 02         | 11          | 22  | 33 |     |   | 7     | 8 |
| 160       | 50  | 03  | 145  | 02  | 02   | 05  | 67 | 19  | 00  | 4023            | 27         | 01         | 15          | 33  | 32 |     |   | X     | 9 |
| 161       | 50  | 04  | 145  | 03  | 02   | 05  | 67 | 20  | 00  | 4023            | 30         | 02         | 10          | 23  | XX |     |   | 6     | 8 |
| 162       | 50  | 07  | 145  | 01  | 03   | 05  | 67 | 00  | 00  | 4023            | 30         | 02         | 11          | 22  | 32 |     |   | 6     | 7 |
| 163       | 50  | 12  | 144  | 58  | 03   | 05  | 67 | 03  | 00  | 4023            | 30         | 10         | 13          | 32  | 22 |     |   | 7     | 8 |
| 164       | 50  | 02  | 144  | 57  | 03   | 05  | 67 | 06  | 00  | 4023            | 30         | 02         | 05          | 22  | 32 |     |   | 6     | 8 |
| 165       | 50  | 01  | 144  | 56  | 03   | 05  | 67 | 09  | 00  | 4023            | 30         | 02         | 05          | 21  | 32 |     |   | 6     | 8 |
| 166       | 50  | 03  | 144  | 59  | 03   | 05  | 67 | 12  | 00  | 4023            | 30         | 02         | 05          | 21  | 32 |     |   | 6     | 8 |
| 167       | 50  | 05  | 145  | 00  | 03   | 05  | 67 | 15  | 00  | 4023            | 29         | 47         | 04          | X0  | 32 |     |   | X     | 9 |
| 168       | 50  | 01  | 145  | 00  | 03   | 05  | 67 | 18  | 00  | 4023            | 29         | 02         | 07          | 21  | 32 |     |   | 6     | 8 |
| 169       | 50  | 00  | 145  | 00  | 03   | 05  | 67 | 19  | 00  | 4023            | 27         | 02         | 14          | 22  | 33 |     |   | X     | 9 |
| 170       | 50  | 03  | 144  | 58  | 03   | 05  | 67 | 20  | 00  | 4023            | 30         | 02         | 10          | 21  | 22 |     |   | 7     | 8 |
| 171       | 50  | 07  | 144  | 53  | 04   | 05  | 67 | 00  | 00  | 4023            | 29         | 02         | 16          | 22  | 32 |     |   | 6     | 8 |
| 172       | 50  | 06  | 144  | 56  | 04   | 05  | 67 | 03  | 00  | 4023            | 28         | 02         | 16          | 22  | 32 |     |   | 6     | 8 |
| 173       | 50  | 04  | 144  | 56  | 04   | 05  | 67 | 06  | 00  | 4023            | 27         | 02         | 14          | 22  | 32 |     |   | 6     | 8 |
| 174       | 50  | 04  | 145  | 01  | 04   | 05  | 67 | 12  | 00  | 4023            | 24         | 61         | 27          | 33  | XX |     |   | 7     | 8 |
| 175       | 50  | 07  | 145  | 06  | 04   | 05  | 67 | 15  | 00  | 4023            | 22         | 10         | 27          | 34  | 33 |     |   | 7     | 8 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | I     | A |
| 176       | 50  | 01  | 145  | 07  | 06   | 05  | 67 | 00  | 00  | 4023            | 21         | 51         | 08          | 22  | 35 | 7   | 8 |       |   |
| 177       | 50  | 02  | 144  | 52  | 00   | 05  | 67 | 06  | 00  | 4023            | 20         | 61         | 02          | 21  | 35 | 7   | 8 |       |   |
| 178       | 50  | 00  | 144  | 59  | 06   | 05  | 67 | 09  | 00  | 4023            | 20         | 61         | 00          | 00  | 32 | 7   | 8 |       |   |
| 179       | 50  | 01  | 145  | 10  | 06   | 05  | 67 | 12  | 00  | 4023            | 19         | 61         | 00          | 00  | 32 | 7   | 8 |       |   |
| 180       | 50  | 02  | 145  | 05  | 06   | 05  | 67 | 15  | 00  | 4023            | 18         | 51         | 05          | 20  | 32 | X   | 9 |       |   |
| 181       | 50  | 01  | 145  | 01  | 06   | 05  | 67 | 18  | 00  | 4023            | 18         | 51         | 03          | 20  | 32 | X   | 9 |       |   |
| 182       | 50  | 04  | 144  | 58  | 06   | 05  | 67 | 20  | 00  | 4023            | 16         | 51         | 16          | 21  | 32 | 7   | 8 |       |   |
| 183       | 50  | 01  | 144  | 58  | 07   | 05  | 67 | 00  | 00  | 4023            | 16         | 51         | 17          | 23  | XX | 7   | 8 |       |   |
| 184       | 49  | 55  | 145  | 01  | 07   | 05  | 67 | 03  | 00  | 4023            | 16         | 51         | 08          | 22  | 23 | 7   | 8 |       |   |
| 185       | 49  | 54  | 145  | 04  | 07   | 05  | 67 | 06  | 00  | 4023            | 18         | 44         | 10          | 22  | XX | 7   | 8 |       |   |
| 186       | 49  | 57  | 145  | 03  | 07   | 05  | 67 | 09  | 00  | 4023            | 20         | 10         | 11          | 22  | XX | 6   | 8 |       |   |
| 187       | 49  | 59  | 144  | 59  | 07   | 05  | 67 | 12  | 00  | 4023            | 21         | 02         | 14          | 23  | XX | 6   | 5 |       |   |
| 188       | 50  | 05  | 144  | 59  | 07   | 05  | 67 | 15  | 00  | 4023            | 22         | 02         | 17          | 33  | 22 | 6   | 7 |       |   |
| 189       | 50  | 05  | 144  | 52  | 07   | 05  | 67 | 18  | 00  | 4023            | 24         | 02         | 22          | 33  | 32 | 6   | 8 |       |   |
| 190       | 49  | 59  | 144  | 47  | 07   | 05  | 67 | 21  | 00  | 4023            | 25         | 02         | 20          | 33  | 32 | 6   | 7 |       |   |
| 191       | 49  | 58  | 144  | 39  | 08   | 05  | 67 | 00  | 00  | 4023            | 26         | 02         | 20          | 33  | 32 | 8   | 7 |       |   |
| 192       | 49  | 56  | 144  | 47  | 08   | 05  | 67 | 03  | 00  | 4023            | 27         | 02         | 25          | 33  | 33 | 8   | 7 |       |   |
| 193       | 49  | 59  | 145  | 02  | 08   | 05  | 67 | 06  | 00  | 4023            | 29         | 01         | 20          | 33  | 32 | 8   | 2 |       |   |
| 194       | 49  | 51  | 144  | 58  | 08   | 05  | 67 | 09  | 00  | 4023            | 31         | 02         | 20          | 23  | 33 | 6   | 5 |       |   |
| 195       | 49  | 53  | 145  | 00  | 08   | 05  | 67 | 12  | 00  | 4023            | 32         | 02         | 18          | 33  | XX | 6   | 7 |       |   |
| 196       | 50  | 02  | 145  | 02  | 08   | 05  | 67 | 15  | 00  | 4023            | 32         | 02         | 16          | 22  | 33 | 6   | 6 |       |   |
| 197       | 49  | 57  | 145  | 02  | 08   | 05  | 67 | 18  | 00  | 4023            | 34         | 02         | 12          | 22  | 22 | 6   | 8 |       |   |
| 198       | 49  | 58  | 145  | 03  | 08   | 05  | 67 | 20  | 00  | 4023            | 34         | 01         | 15          | 22  | 22 | 8   | 2 |       |   |
| 199       | 49  | 52  | 145  | 00  | 09   | 05  | 67 | 00  | 00  | 4023            | 34         | 02         | 16          | 22  | 32 | 8   | 4 |       |   |
| 200       | 50  | 00  | 145  | 00  | 09   | 05  | 67 | 03  | 00  | 4023            | 33         | 02         | 15          | 22  | 32 | 8   | 2 |       |   |



TABLE I

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 201       | 50  | 00  | 145  | 00  | 09   | 05  | 67 | 06  | 00  | 4023            | 33         | 02         | 13          | 22  | 32 |     |   | 8     | 2 |
| 202       | 50  | 00  | 145  | 00  | 09   | 05  | 67 | 09  | 00  | 4023            | 33         | 02         | 15          | 22  | XX |     |   | 8     | 3 |
| 203       | 49  | 52  | 145  | 03  | 09   | 05  | 67 | 12  | 00  | 4023            | 32         | 02         | 15          | 22  | XX |     |   | 8     | 1 |
| 204       | 50  | 00  | 145  | 00  | 09   | 05  | 67 | 15  | 00  | 4023            | 31         | 02         | 16          | 22  | 32 |     |   | 0     | 1 |
| 205       | 49  | 57  | 144  | 59  | 09   | 05  | 67 | 18  | 00  | 4023            | 30         | 02         | 17          | 33  | 32 |     |   | 0     | 2 |
| 206       | 49  | 50  | 144  | 55  | 09   | 05  | 67 | 21  | 00  | 4023            | 30         | 02         | 21          | 33  | 32 |     |   | 0     | 5 |
| 207       | 49  | 51  | 145  | 00  | 10   | 05  | 67 | 00  | 00  | 4023            | 30         | 02         | 18          | 33  | 32 |     |   | 6     | 4 |
| 208       | 49  | 58  | 145  | 03  | 10   | 05  | 67 | 03  | 00  | 4023            | 29         | 03         | 20          | 33  | 32 |     |   | 6     | 7 |
| 209       | 49  | 55  | 145  | 03  | 10   | 05  | 67 | 06  | 00  | 4023            | 28         | 02         | 22          | 23  | XX |     |   | 6     | 6 |
| 210       | 50  | 00  | 145  | 00  | 10   | 05  | 67 | 09  | 00  | 4023            | 28         | 02         | 15          | 32  | XX |     |   | 6     | 4 |
| 211       | 49  | 58  | 145  | 02  | 10   | 05  | 67 | 12  | 00  | 4023            | 26         | 01         | 19          | 33  | XX |     |   | 6     | 2 |
| 212       | 49  | 53  | 145  | 03  | 10   | 05  | 67 | 15  | 00  | 4023            | 26         | 02         | 19          | 33  | 32 |     |   | 6     | 4 |
| 213       | 50  | 02  | 145  | 00  | 10   | 05  | 67 | 18  | 00  | 4023            | 25         | 03         | 20          | 33  | 32 |     |   | 6     | 8 |
| 214       | 50  | 00  | 145  | 00  | 10   | 05  | 67 | 20  | 00  | 4023            | 25         | 02         | 21          | 33  | 32 |     |   | 6     | 8 |
| 215       | 49  | 57  | 145  | 00  | 11   | 05  | 67 | 00  | 00  | 4023            | 24         | 02         | 17          | 22  | 33 |     |   | 6     | 7 |
| 216       | 49  | 55  | 145  | 00  | 11   | 05  | 67 | 03  | 00  | 4023            | 23         | 02         | 20          | 33  | 33 |     |   | 6     | 6 |
| 217       | 49  | 59  | 145  | 00  | 11   | 05  | 67 | 06  | 00  | 4023            | 23         | 02         | 16          | 32  | 32 |     |   | 6     | 5 |
| 218       | 50  | 00  | 145  | 00  | 11   | 05  | 67 | 09  | 00  | 4023            | 23         | 02         | 16          | 33  | XX |     |   | 6     | 6 |
| 219       | 49  | 59  | 145  | 04  | 11   | 05  | 67 | 12  | 00  | 4023            | 22         | 02         | 12          | 33  | XX |     |   | 6     | 8 |
| 220       | 49  | 59  | 145  | 00  | 11   | 05  | 67 | 15  | 00  | 4023            | 21         | 02         | 12          | 22  | 32 |     |   | 6     | 7 |
| 221       | 49  | 57  | 145  | 00  | 11   | 05  | 67 | 18  | 00  | 4023            | 21         | 02         | 11          | 22  | 33 |     |   | 6     | 8 |
| 222       | 50  | 00  | 145  | 00  | 11   | 05  | 67 | 19  | 00  | 4023            |            |            |             |     |    |     |   |       |   |
| 223       | 49  | 53  | 144  | 54  | 12   | 05  | 67 | 00  | 00  | 4023            | 19         | 02         | 11          | 22  | 32 |     |   | 6     | 8 |
| 224       | 50  | 00  | 145  | 00  | 12   | 05  | 67 | 03  | 00  | 4023            | 18         | 02         | 12          | 22  | 22 |     |   | 6     | 8 |
| 225       | 50  | 00  | 145  | 00  | 12   | 05  | 67 | 06  | 00  | 4023            | 16         | 02         | 06          | 32  | 22 |     |   | 6     | 8 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 226       | 49  | 57  | 144  | 56  | 12   | 05  | 67 | 09  | 00  | 4023            | 15         | 61         | 12          | 22  | XX |     |   | 7     | 8 |
| 227       | 50  | 03  | 144  | 55  | 12   | 05  | 67 | 12  | 00  | 4023            | 13         | 61         | 13          | 32  | XX |     |   | 7     | 8 |
| 228       | 50  | 05  | 144  | 51  | 12   | 05  | 67 | 15  | 00  | 4023            | 09         | 61         | 18          | 23  | 33 |     |   | 7     | 8 |
| 229       | 50  | 10  | 144  | 50  | 12   | 05  | 67 | 18  | 00  | 4023            | 08         | 47         | 14          | 22  | XX |     |   | X     | 9 |
| 230       | 50  | 06  | 144  | 46  | 12   | 05  | 67 | 21  | 00  | 4023            | 07         | 44         | 19          | 22  | 22 |     |   | 7     | 8 |
| 231       | 50  | 10  | 144  | 41  | 13   | 05  | 67 | 03  | 00  | 4023            | 07         | 28         | 22          | 33  | 22 |     |   | 7     | 8 |
| 232       | 50  | 00  | 145  | 00  | 13   | 05  | 67 | 06  | 00  | 4023            | 08         | 20         | 09          | 22  | 32 |     |   | 7     | 8 |
| 233       | 50  | 04  | 144  | 55  | 13   | 05  | 67 | 09  | 00  | 4023            | 08         | 47         | 14          | 32  | XX |     |   | X     | 9 |
| 234       | 50  | 08  | 144  | 54  | 13   | 05  | 67 | 12  | 00  | 4023            | 08         | 45         | 14          | 22  | XX |     |   | X     | 9 |
| 235       | 50  | 09  | 144  | 47  | 13   | 05  | 67 | 15  | 00  | 4023            | 08         | 45         | 15          | 22  | 32 |     |   | X     | 9 |
| 236       | 50  | 02  | 145  | 00  | 13   | 05  | 67 | 18  | 00  | 4023            | 09         | 45         | 12          | 22  | 32 |     |   | X     | 9 |
| 237       | 50  | 01  | 145  | 00  | 13   | 05  | 67 | 21  | 00  | 4023            | 10         | 45         | 10          | 32  | 22 |     |   | X     | 9 |
| 238       | 50  | 06  | 145  | 02  | 14   | 05  | 67 | 00  | 00  | 4023            | 10         | 45         | 09          | 21  | 32 |     |   | X     | 9 |
| 239       | 50  | 08  | 145  | 00  | 14   | 05  | 67 | 03  | 00  | 4023            | 11         | 28         | 10          | 22  | 22 |     |   | 7     | 8 |
| 240       | 49  | 59  | 145  | 00  | 14   | 05  | 67 | 06  | 00  | 4023            | 13         | 01         | 08          | 21  | 32 |     |   | 8     | 2 |
| 241       | 49  | 58  | 144  | 56  | 14   | 05  | 67 | 09  | 00  | 4023            | 15         | 03         | 11          | 21  | XX |     |   | 6     | 5 |
| 242       | 50  | 04  | 144  | 52  | 14   | 05  | 67 | 12  | 00  | 4023            | 16         | 02         | 10          | 21  | XX |     |   | 6     | 8 |
| 243       | 50  | 02  | 144  | 58  | 14   | 05  | 67 | 15  | 00  | 4023            | 17         | 02         | 10          | 22  | 32 |     |   | 6     | 7 |
| 244       | 50  | 00  | 144  | 57  | 14   | 05  | 67 | 18  | 00  | 4023            | 18         | 02         | 12          | 21  | 22 |     |   | 6     | 8 |
| 245       | 50  | 00  | 144  | 56  | 14   | 05  | 67 | 21  | 00  | 4023            | 19         | 02         | 11          | 21  | 22 |     |   | 3     | 8 |
| 246       | 50  | 05  | 144  | 50  | 15   | 05  | 67 | 00  | 00  | 4023            | 19         | 02         | 12          | 22  | 22 |     |   | 6     | 7 |
| 247       | 50  | 01  | 144  | 58  | 15   | 05  | 67 | 03  | 00  | 4023            | 18         | 02         | 10          | 22  | 22 |     |   | 6     | 6 |
| 248       | 50  | 05  | 144  | 58  | 15   | 05  | 67 | 06  | 00  | 4023            | 18         | 02         | 11          | 22  | 22 |     |   | 6     | 8 |
| 249       | 50  | 03  | 144  | 57  | 15   | 05  | 67 | 09  | 00  | 4023            | 18         | 02         | 09          | 22  | XX |     |   | 8     | 4 |
| 250       | 50  | 01  | 144  | 52  | 15   | 05  | 67 | 12  | 00  | 4023            | 17         | 02         | 07          | 21  | XX |     |   | 6     | 7 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 251       | 50  | 00  | 145  | 00  | 15   | 05  | 67 | 15  | 00  | 4023            | 16         | 25         | 12          | 22  | 22 | 6   | 7 |       |   |
| 252       | 50  | 01  | 144  | 59  | 15   | 05  | 67 | 18  | 00  | 4023            | 16         | 02         | 09          | 22  | 22 | 6   | 7 |       |   |
| 253       | 49  | 58  | 144  | 58  | 15   | 05  | 67 | 21  | 00  | 4023            | 16         | 02         | 13          | 33  | 22 | 6   | 7 |       |   |
| 254       | 50  | 01  | 144  | 56  | 16   | 05  | 67 | 00  | 00  | 4023            | 16         | 02         | 12          | 22  | 22 | 6   | 7 |       |   |
| 255       | 50  | 00  | 144  | 52  | 16   | 05  | 67 | 03  | 00  | 4023            | 15         | 03         | 14          | 22  | 22 | 6   | 8 |       |   |
| 256       | 50  | 00  | 145  | 01  | 16   | 05  | 67 | 06  | 00  | 4023            | 16         | 15         | 10          | 21  | 22 | 8   | 6 |       |   |
| 257       | 49  | 59  | 145  | 02  | 16   | 05  | 67 | 09  | 00  | 4023            | 16         | 02         | 12          | 21  | XX | 8   | 6 |       |   |
| 258       | 50  | 00  | 145  | 00  | 16   | 05  | 67 | 12  | 00  | 4023            | 16         | 02         | 10          | 21  | XX | 6   | 8 |       |   |
| 259       | 50  | 00  | 145  | 00  | 16   | 05  | 67 | 15  | 00  | 4023            | 16         | 15         | 12          | 21  | 32 | 6   | 7 |       |   |
| 260       | 50  | 00  | 144  | 59  | 16   | 05  | 67 | 18  | 00  | 4023            | 17         | 03         | 10          | 21  | 22 | 6   | 8 |       |   |
| 261       | 50  | 00  | 145  | 00  | 16   | 05  | 67 | 21  | 00  | 4023            | 18         | 01         | 11          | 21  | 22 | 8   | 5 |       |   |
| 262       | 50  | 00  | 144  | 52  | 17   | 05  | 67 | 00  | 00  | 4023            | 18         | 02         | 10          | 22  | XX | 6   | 8 |       |   |
| 263       | 50  | 00  | 144  | 47  | 17   | 05  | 67 | 03  | 00  | 4023            | 18         | 20         | 09          | 22  | XX | 8   | 7 |       |   |
| 264       | 50  | 00  | 145  | 01  | 17   | 05  | 67 | 06  | 00  | 4023            | 18         | 02         | 09          | 22  | XX | 6   | 7 |       |   |
| 265       | 50  | 00  | 145  | 01  | 17   | 05  | 67 | 09  | 00  | 4023            | 19         | 02         | 07          | 21  | 22 | 6   | 7 |       |   |
| 266       | 50  | 02  | 144  | 56  | 17   | 05  | 67 | 12  | 00  | 4023            | 19         | 10         | 13          | 22  | XX | 6   | 8 |       |   |
| 267       | 50  | 00  | 145  | 01  | 17   | 05  | 67 | 16  | 00  | 4023            | 19         | 02         | 14          | 22  | XX | 6   | 7 |       |   |
| 268       | 49  | 59  | 145  | 00  | 17   | 05  | 67 | 18  | 00  | 4023            | 19         | 02         | 12          | 22  | 22 | 6   | 8 |       |   |
| 269       | 50  | 01  | 144  | 59  | 17   | 05  | 67 | 21  | 00  | 4023            | 19         | 02         | 15          | 22  | 22 | 6   | 7 |       |   |
| 270       | 50  | 07  | 144  | 55  | 18   | 05  | 67 | 00  | 00  | 4023            | 19         | 02         | 14          | 22  | 22 | 6   | 7 |       |   |
| 271       | 50  | 01  | 144  | 59  | 18   | 05  | 67 | 18  | 00  | 4023            | 18         | 02         | 16          | 22  | 22 | 3   | 6 |       |   |
| 272       | 50  | 03  | 144  | 57  | 18   | 05  | 67 | 21  | 00  | 4023            | 18         | 03         | 17          | 22  | 22 | 6   | 8 |       |   |
| 273       | 50  | 07  | 144  | 57  | 19   | 05  | 67 | 00  | 00  | 4023            | 17         | 02         | 14          | 22  | 22 | 0   | 4 |       |   |
| 274       | 49  | 58  | 145  | 00  | 19   | 05  | 67 | 04  | 00  | 4023            | 16         | 02         | 11          | 21  | 22 | 6   | 7 |       |   |
| 275       | 50  | 02  | 144  | 58  | 19   | 05  | 67 | 06  | 00  | 4023            | 15         | 02         | 14          | 21  | 22 | 6   | 7 |       |   |

TABLE 1

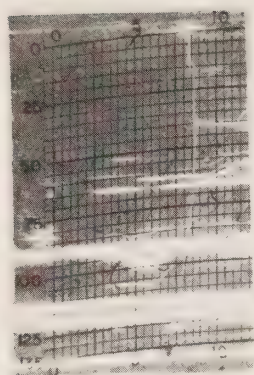
| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 276       | 50  | 03  | 145  | 02  | 19   | 05  | 67 | 09  | 00  | 4023            | 14         | 02         | 13          | 21  | XX | 6   | 7 |       |   |
| 277       | 50  | 06  | 145  | 02  | 19   | 05  | 67 | 12  | 00  | 4023            | 11         | 02         | 14          | 22  | XX | 6   | 7 |       |   |
| 278       | 50  | 00  | 145  | 00  | 19   | 05  | 67 | 14  | 20  | 4023            | 08         | 60         | 20          | 22  | 22 | 7   | 8 |       |   |
| 279       | 50  | 00  | 145  | 00  | 19   | 05  | 67 | 18  | 00  | 4023            | 04         | 02         | 21          | 33  | 22 | 6   | 8 |       |   |
| 280       | 49  | 56  | 145  | 04  | 19   | 05  | 67 | 21  | 00  | 4023            | 02         | 02         | 21          | 33  | 22 | 6   | 8 |       |   |
| 281       | 50  | 00  | 145  | 08  | 20   | 05  | 67 | 00  | 00  | 4023            | 00         | 50         | 22          | 23  | 33 | 7   | 8 |       |   |
| 282       | 49  | 57  | 145  | 03  | 20   | 05  | 67 | 03  | 00  | 4023            | 00         | 01         | 24          | 33  | 33 | 6   | 7 |       |   |
| 283       | 49  | 52  | 145  | 00  | 20   | 05  | 67 | 06  | 00  | 4023            | 02         | 15         | 24          | 33  | 33 | 8   | 6 |       |   |
| 284       | 49  | 58  | 145  | 05  | 20   | 05  | 67 | 09  | 00  | 4023            | 03         | 02         | 22          | 33  | XX | 6   | 7 |       |   |
| 285       | 49  | 55  | 145  | 04  | 20   | 05  | 67 | 12  | 00  | 4023            | 05         | 01         | 22          | 33  | XX | 8   | 3 |       |   |
| 286       | 49  | 59  | 145  | 00  | 20   | 05  | 67 | 15  | 00  | 4023            | 06         | 02         | 22          | 33  | XX | 8   | 2 |       |   |
| 287       | 50  | 00  | 144  | 55  | 20   | 05  | 67 | 18  | 00  | 4023            | 07         | 03         | 22          | 33  | 33 | 8   | 5 |       |   |
| 288       | 50  | 03  | 144  | 56  | 20   | 05  | 67 | 21  | 00  | 4023            | 08         | 01         | 22          | 33  | 33 | 8   | 3 |       |   |
| 289       | 50  | 03  | 144  | 50  | 21   | 05  | 67 | 00  | 00  | 4023            | 08         | 02         | 21          | 23  | 33 | 8   | 3 |       |   |
| 290       | 50  | 01  | 144  | 57  | 21   | 05  | 67 | 03  | 00  | 4023            | 07         | 02         | 19          | 33  | 23 | 8   | 4 |       |   |
| 291       | 50  | 02  | 144  | 54  | 21   | 05  | 67 | 06  | 00  | 4023            | 07         | 15         | 22          | 33  | 33 | 8   | 4 |       |   |
| 292       | 50  | 07  | 144  | 45  | 21   | 05  | 67 | 09  | 00  | 4023            | 06         | 02         | 24          | 34  | XX | 8   | 4 |       |   |
| 293       | 50  | 01  | 145  | 00  | 21   | 05  | 67 | 12  | 00  | 4023            | 04         | 80         | 26          | 34  | XX | 8   | 7 |       |   |
| 294       | 50  | 04  | 144  | 49  | 21   | 05  | 67 | 15  | 00  | 4023            | 04         | 15         | 19          | 34  | XX | 8   | 7 |       |   |
| 295       | 50  | 00  | 145  | 00  | 21   | 05  | 67 | 21  | 00  | 4023            | 05         | 02         | 14          | 33  | 34 | 8   | 5 |       |   |
| 296       | 50  | 04  | 144  | 56  | 22   | 05  | 67 | 00  | 00  | 4023            | 06         | 02         | 18          | 33  | 34 | 6   | 6 |       |   |
| 297       | 49  | 55  | 144  | 40  | 22   | 05  | 67 | 06  | 30  | 4023            |            |            |             |     |    |     |   |       |   |
| 298       | 49  | 48  | 142  | 28  | 22   | 05  | 67 | 13  | 00  | 4023            | 14         | 02         | 15          | 33  | 34 | 6   | 6 |       |   |
| 299       | 49  | 44  | 141  | 40  | 22   | 05  | 67 | 17  | 00  | 4023            |            |            |             |     |    |     |   |       |   |
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TABLE 1

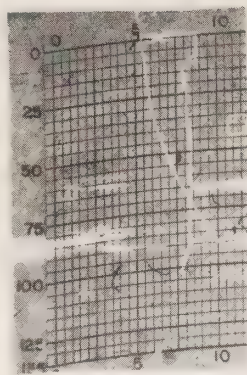
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|-----------|-----|-----|------|-----|------|-----|----|-----|-----|--------|-----|------|------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min | Metres | Mbs | Code | Amt  | P   | H  | P   | H | T     | A |
| 301       | 49  | 38  | 139  | 40  | 22   | 05  | 67 | 23  | 00  | 3255   | 17  | 02   | 15   | 33  | 34 | 6   | 7 |       |   |
| 302       | 49  | 34  | 138  | 40  | 23   | 05  | 67 | 01  | 06  | 4005   | 18  | 02   | 18   | 33  | 34 | 6   | 7 |       |   |
| 303       | 49  | 30  | 137  | 40  | 23   | 05  | 67 | 05  | 00  | 3950   |     |      |      |     |    |     |   |       |   |
| 304       | 49  | 26  | 136  | 40  | 23   | 05  | 67 | 07  | 15  | 3658   | 19  | 02   | 20   | 33  | 34 | 6   | 7 |       |   |
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| 307       | 49  | 14  | 133  | 40  | 23   | 05  | 67 | 16  | 30  | 3292   |     |      |      |     |    |     |   |       |   |
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| 309       | 49  | 02  | 130  | 40  | 24   | 05  | 67 | 01  | 30  | 3438   | 20  | 02   | 24   | 34  | 44 | 6   | 6 |       |   |
| 310       | 48  | 53  | 129  | 40  | 24   | 05  | 67 | 05  | 00  | 1829   | 20  | 02   | 25   | 33  | 34 | 6   | 7 |       |   |
| 311       | 48  | 51  | 128  | 40  | 24   | 05  | 67 | 06  | 45  | 2176   | 19  | 02   | 20   | 33  | 34 | 6   | 7 |       |   |
| 312       | 48  | 46  | 127  | 40  | 24   | 05  | 67 | 12  | 00  | 2597   | 20  | 15   | 20   | 33  | 34 | 5   | 4 |       |   |
| 313       | 48  | 42  | 126  | 40  | 24   | 05  | 67 | 15  | 45  | 1591   | 20  | 02   | 16   | 33  | 34 | 6   | 5 |       |   |
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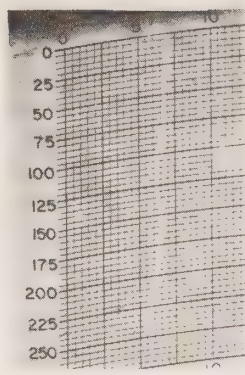




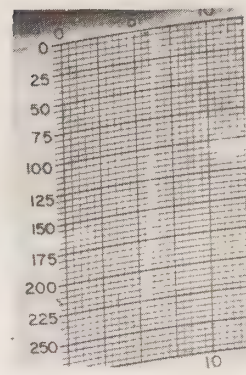
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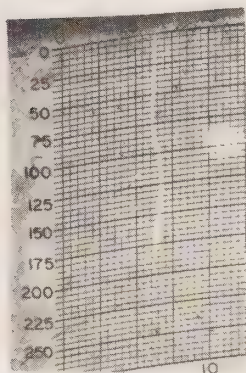
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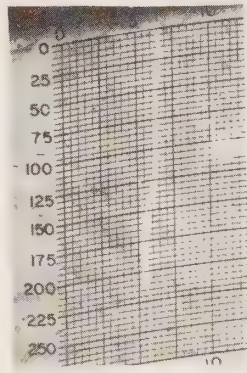
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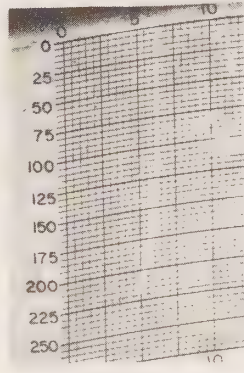
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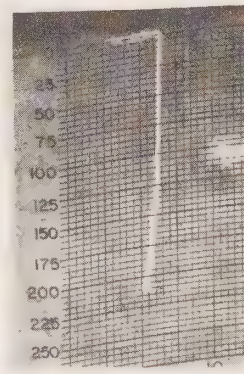
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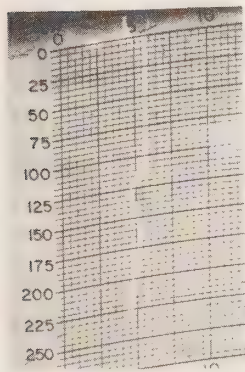
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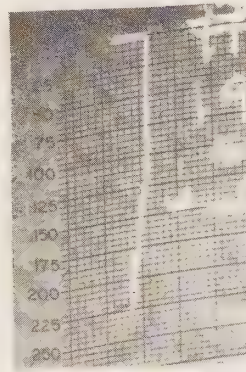
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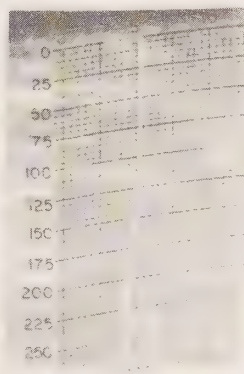
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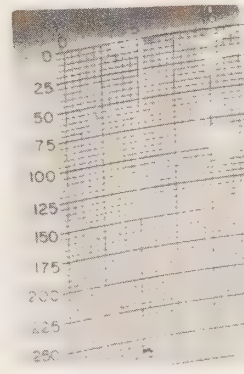
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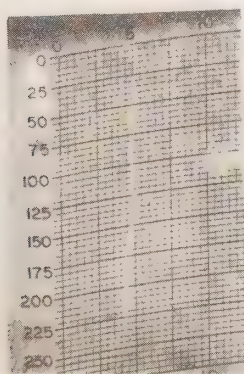
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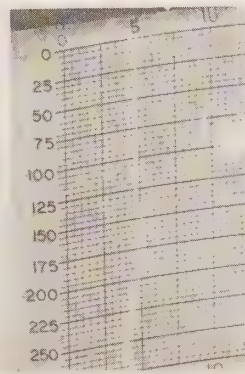
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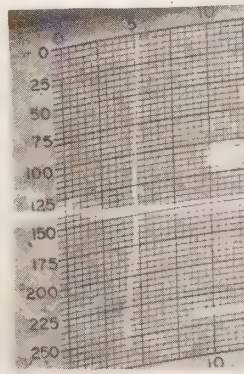
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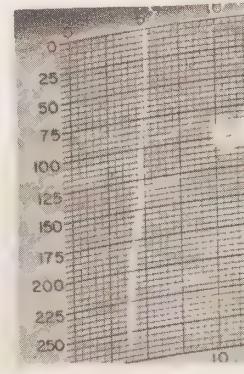
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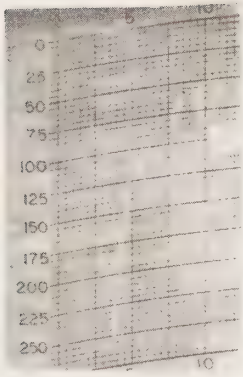


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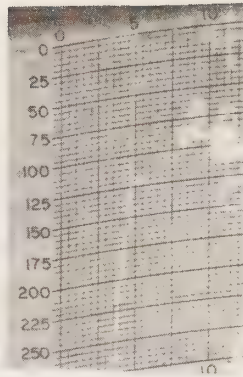


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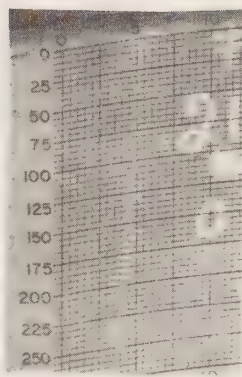




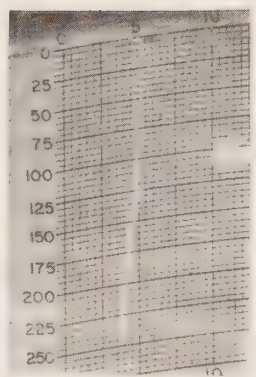
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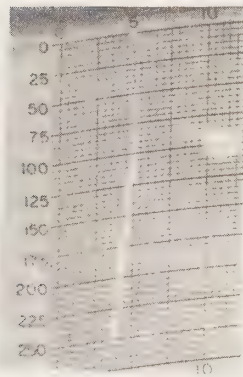
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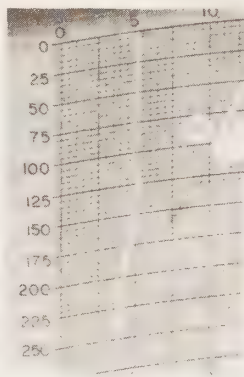
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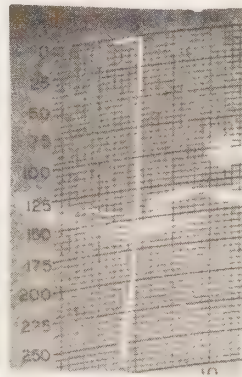
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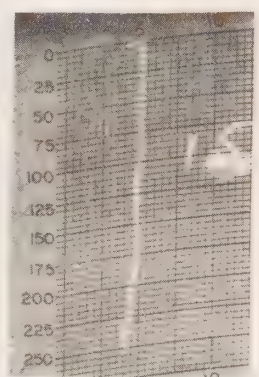
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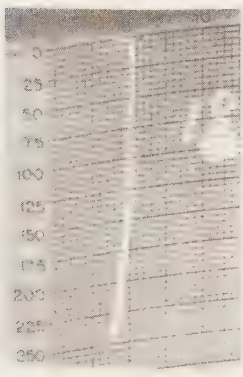
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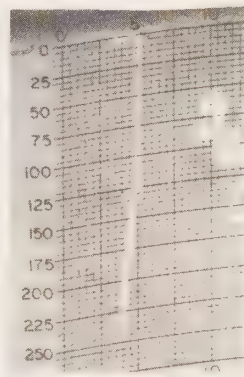
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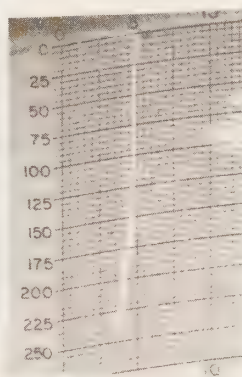
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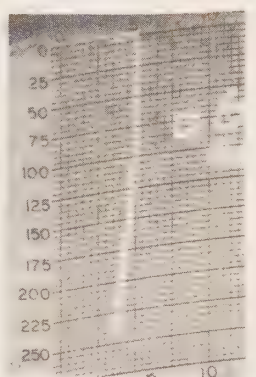
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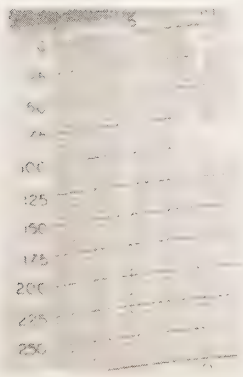
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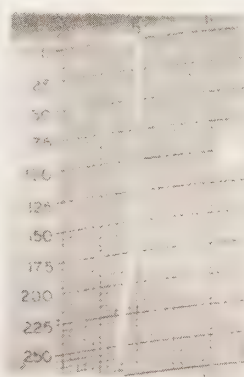
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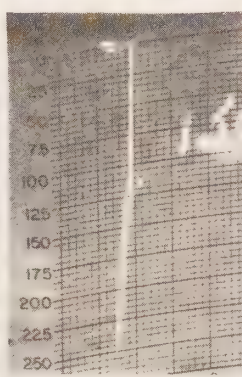
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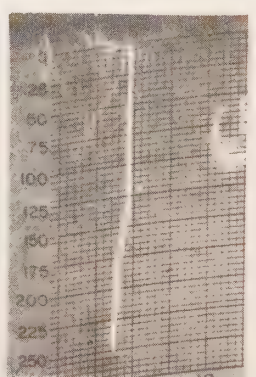
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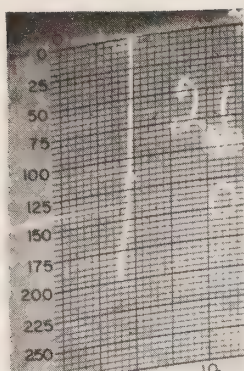


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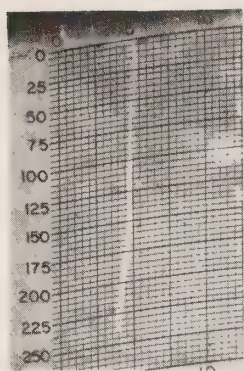


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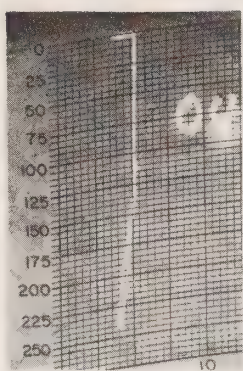




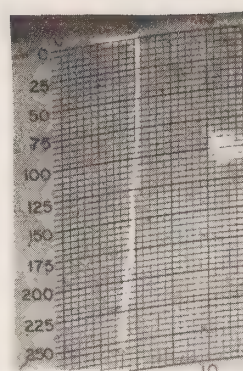
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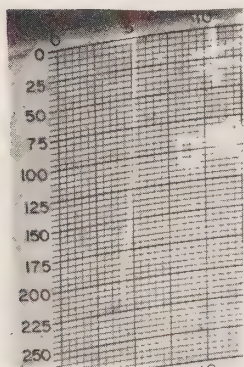
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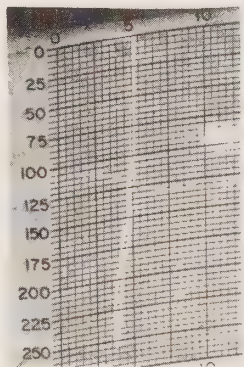
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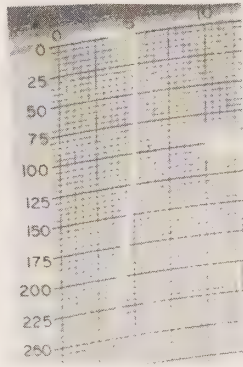
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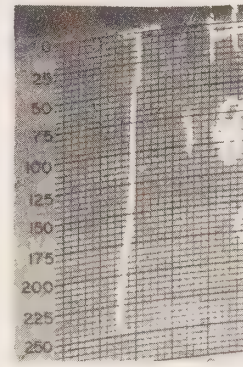
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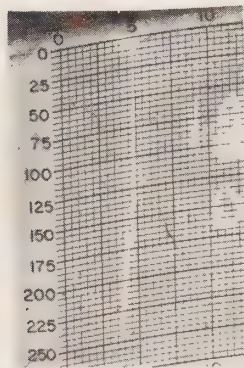
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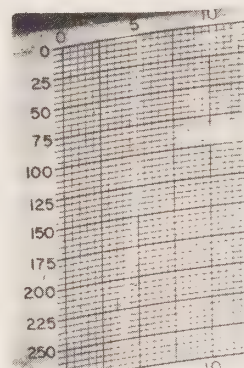
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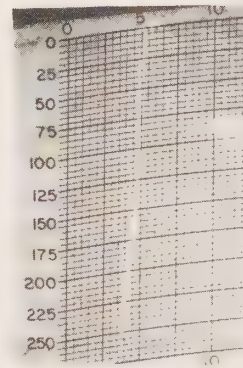
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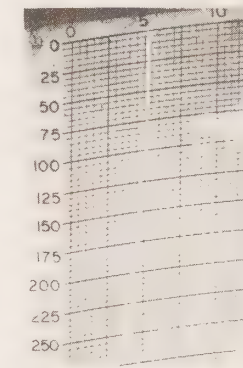
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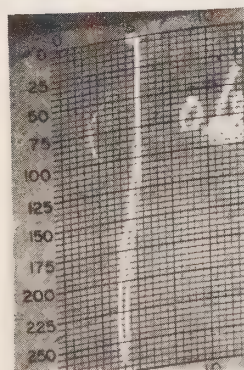
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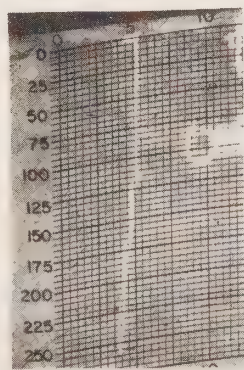
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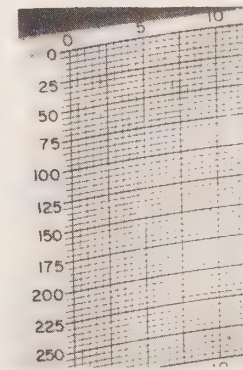
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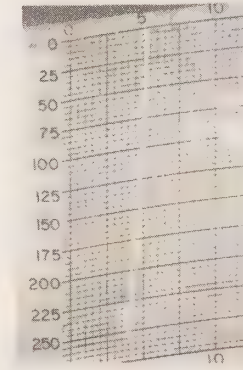
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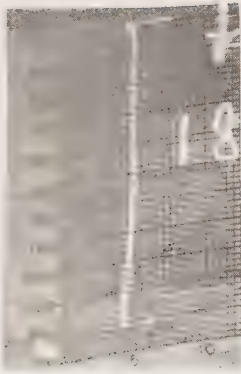


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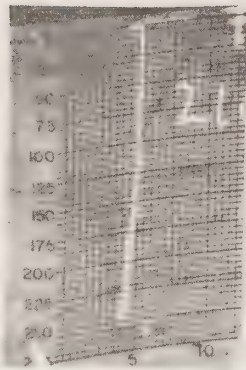


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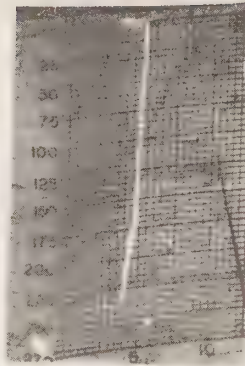




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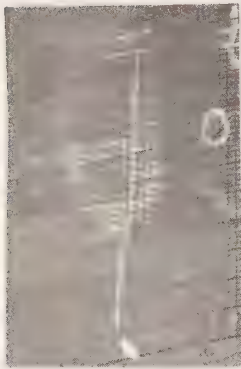
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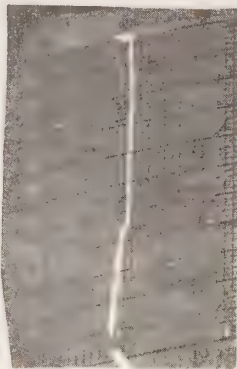
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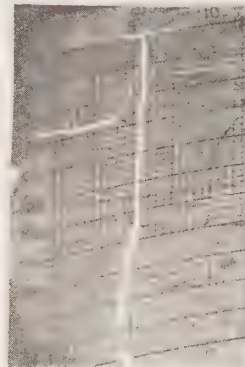
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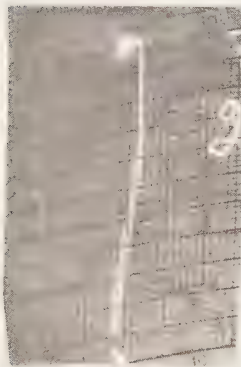
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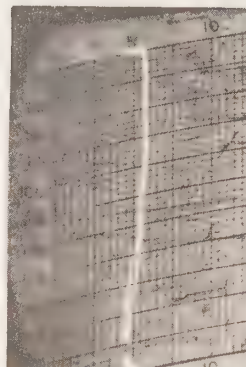
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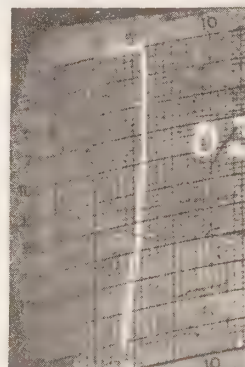
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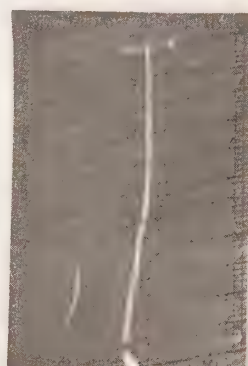
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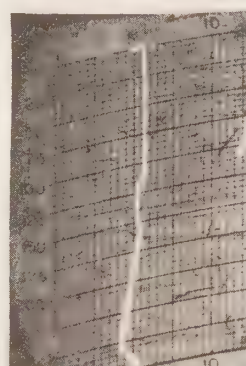
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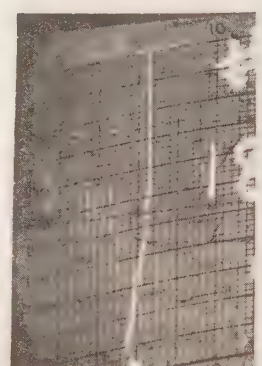
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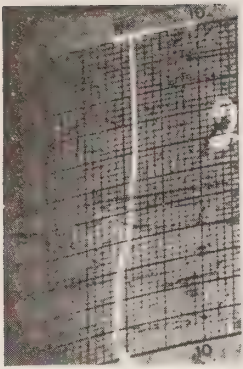
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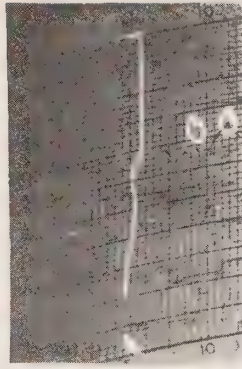
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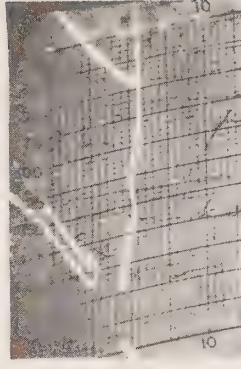
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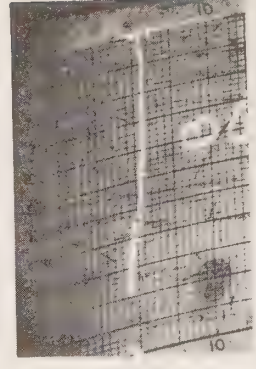
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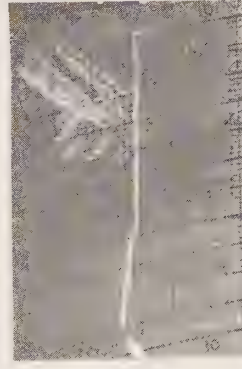
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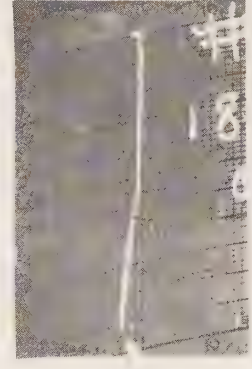
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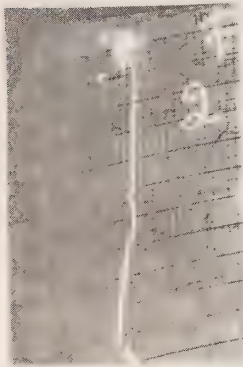
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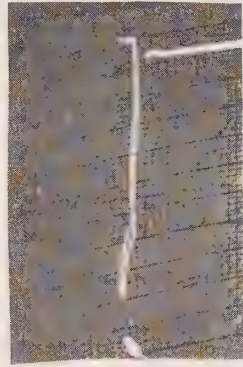
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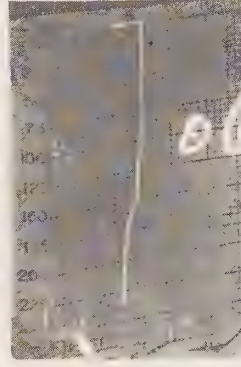
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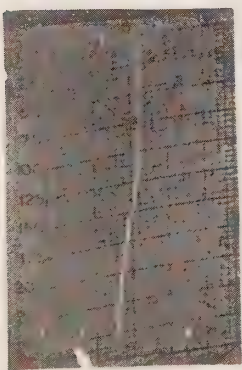
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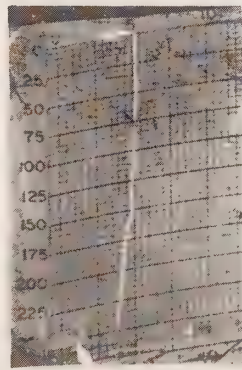
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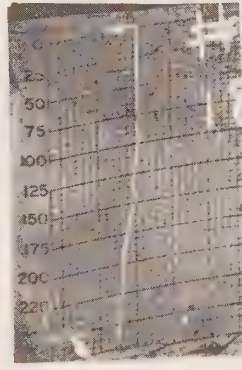
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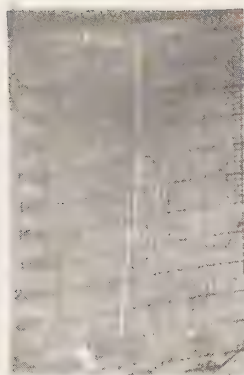


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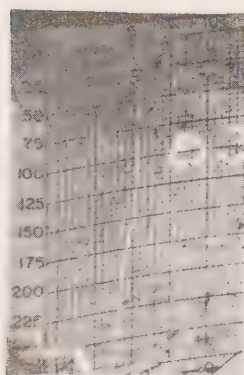


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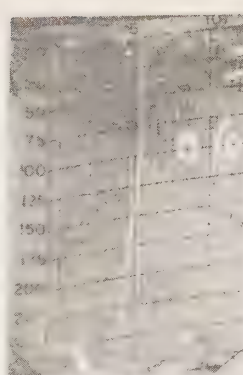




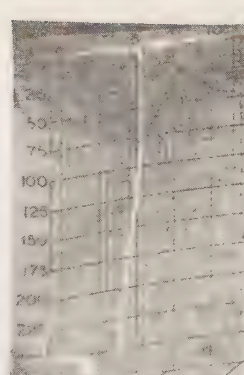
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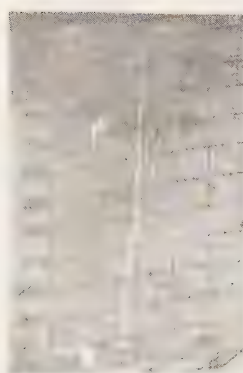
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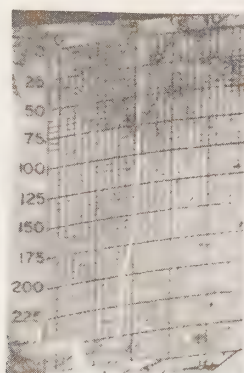
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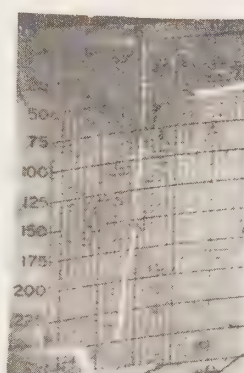
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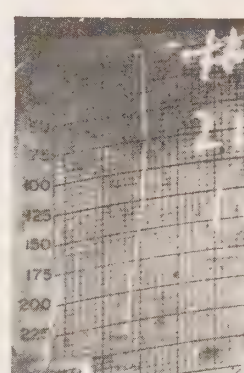
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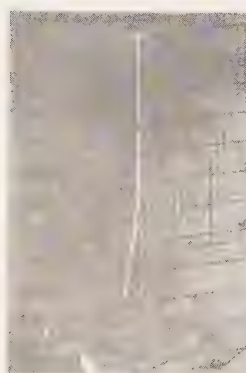
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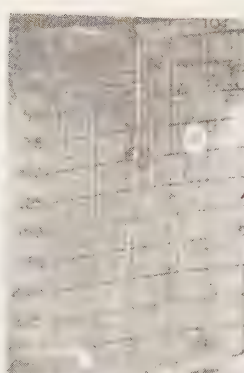
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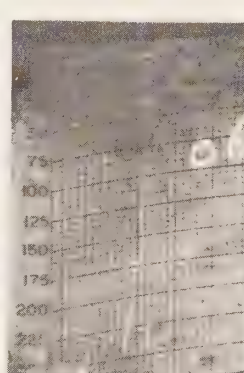
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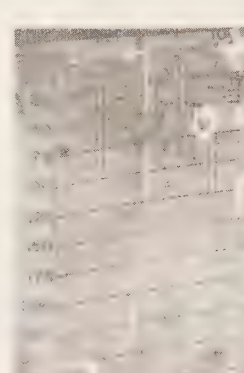
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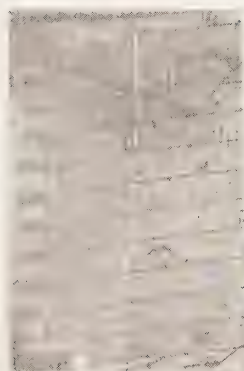
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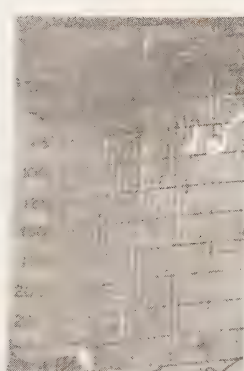
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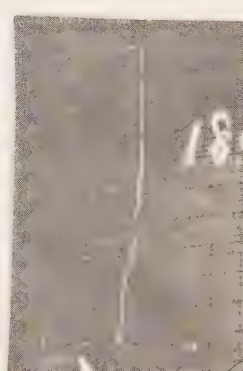
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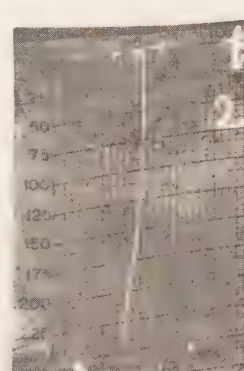
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94

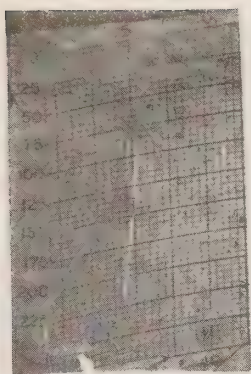


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96





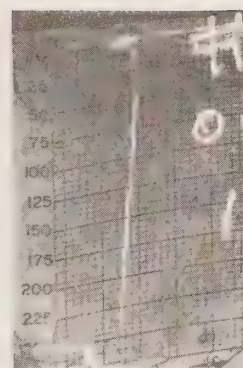
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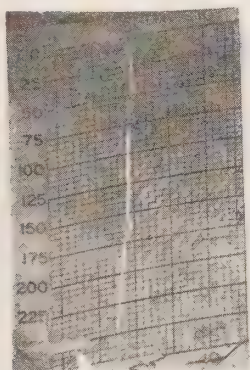
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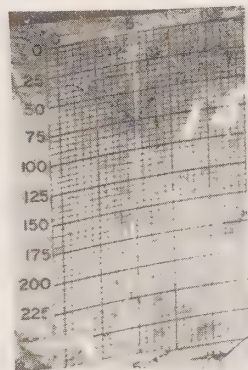
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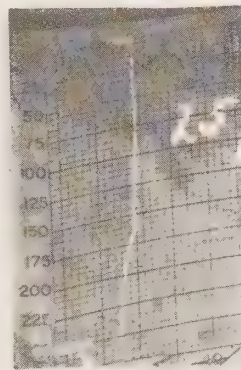
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101



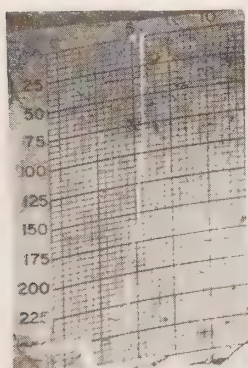
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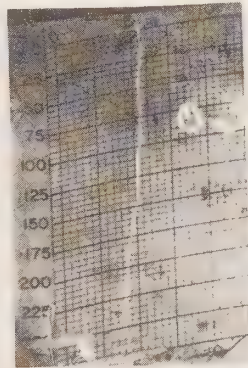
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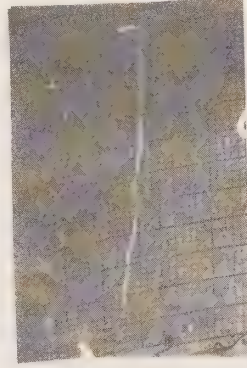
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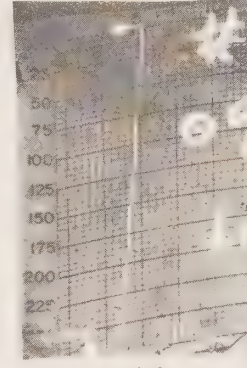
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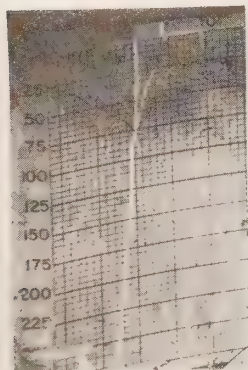
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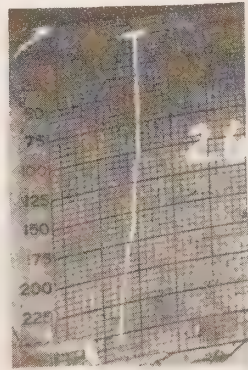
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108



109



110

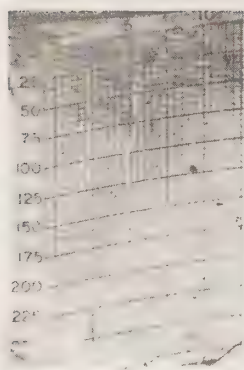


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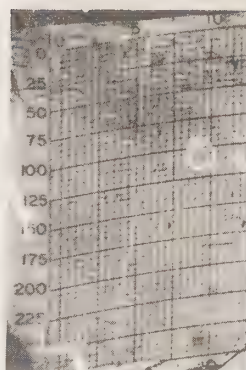


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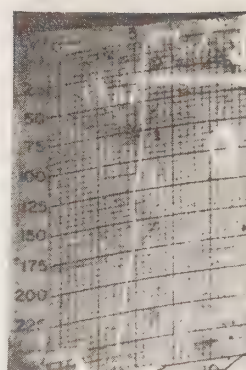




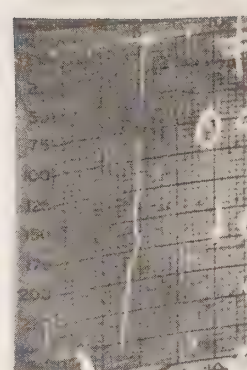
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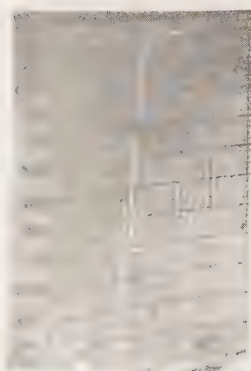
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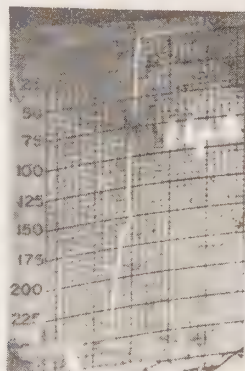
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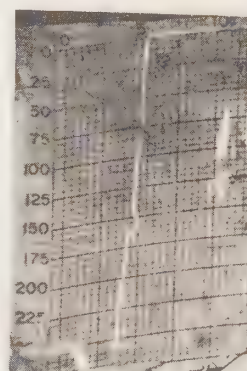
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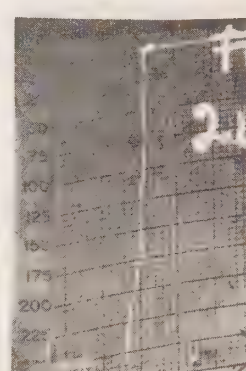
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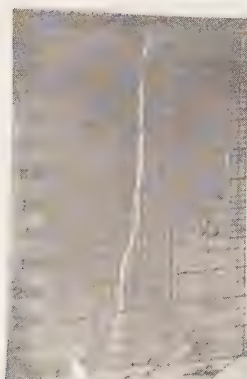
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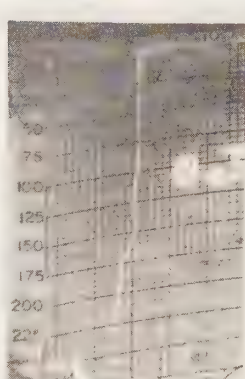
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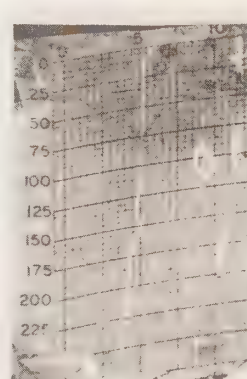
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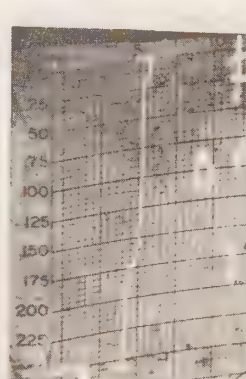
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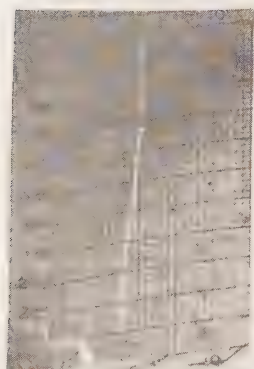
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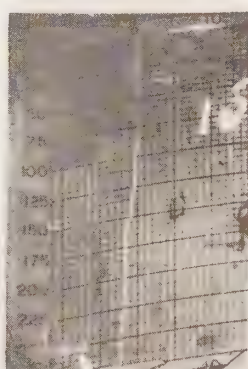
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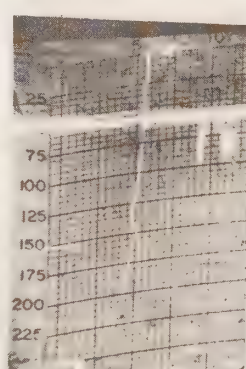
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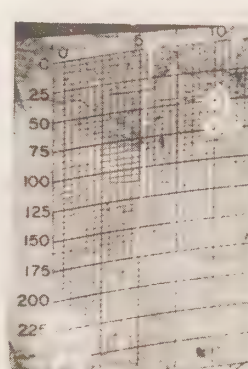
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126

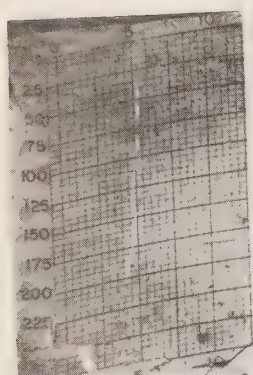


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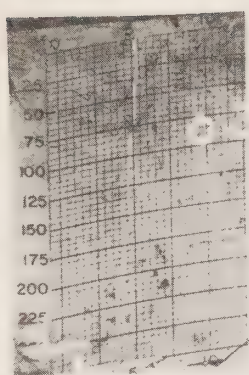


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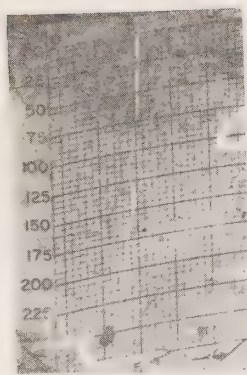




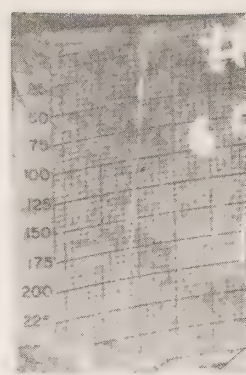
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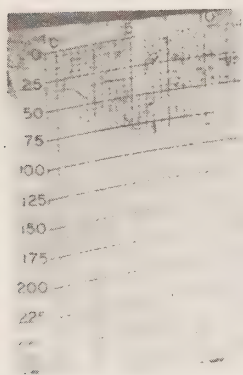
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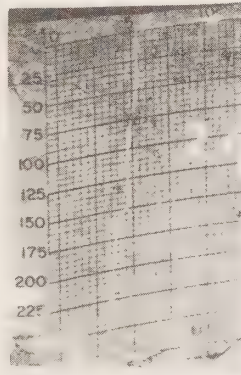
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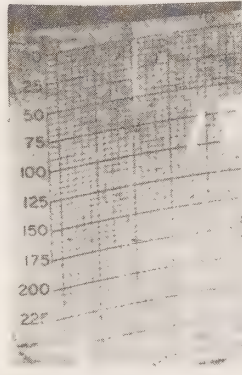
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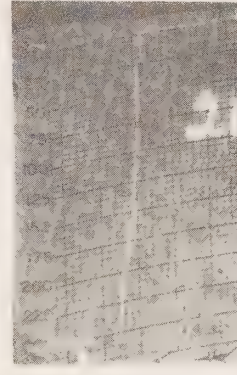
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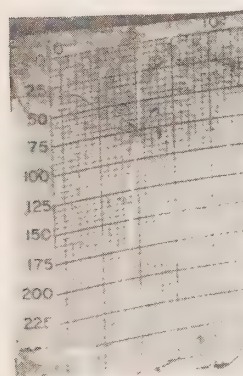
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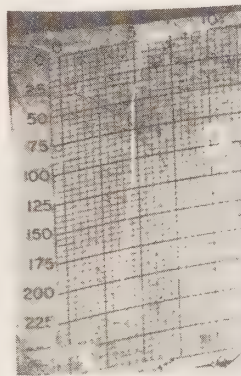
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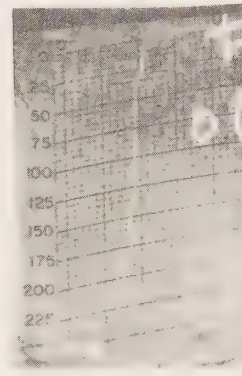
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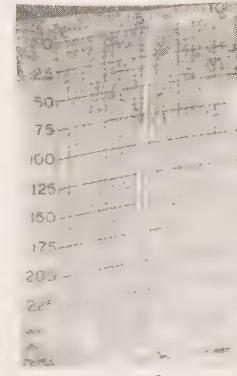
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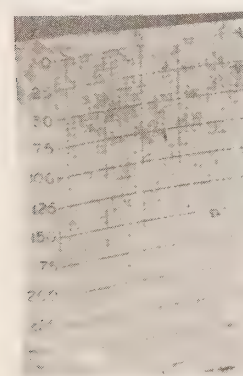
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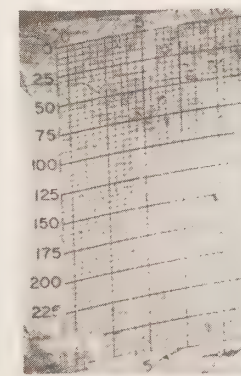
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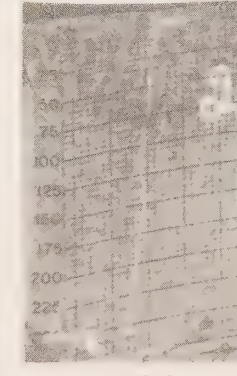
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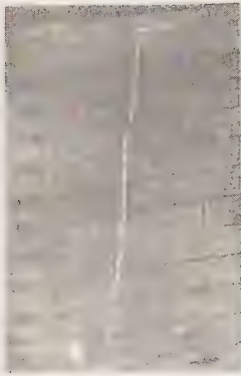


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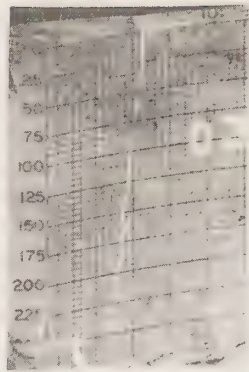


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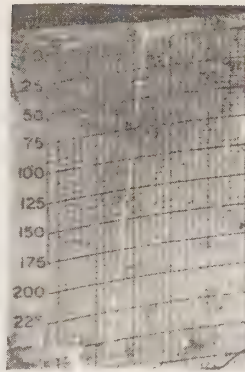




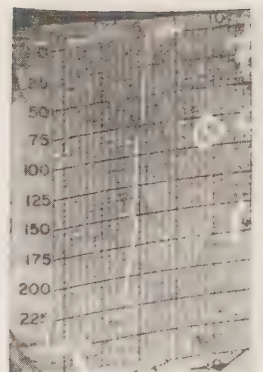
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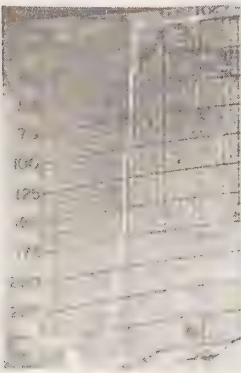
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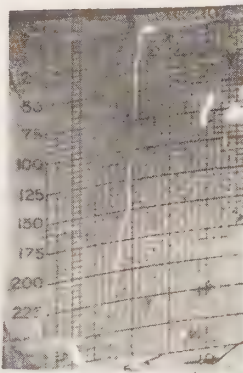
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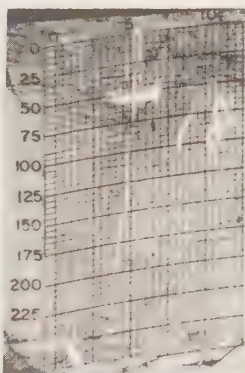
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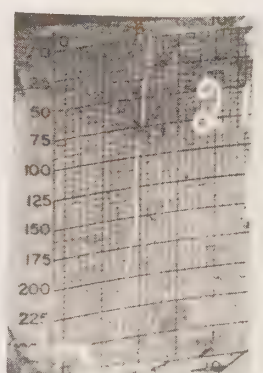
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150



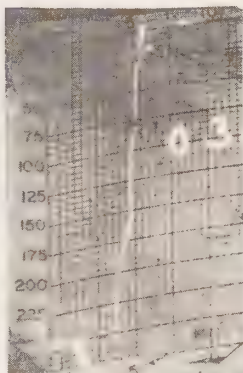
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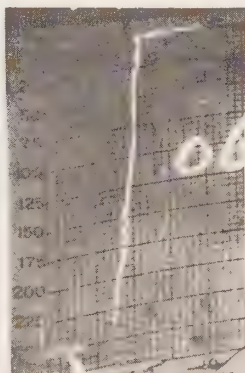
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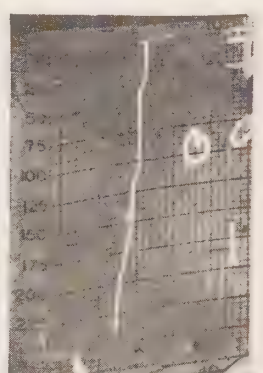
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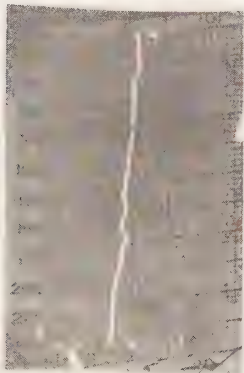
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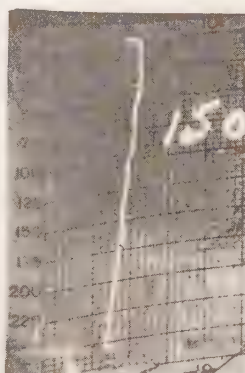
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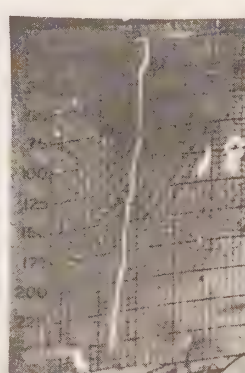
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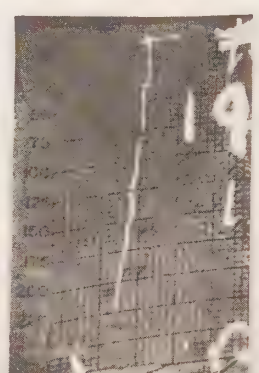
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158

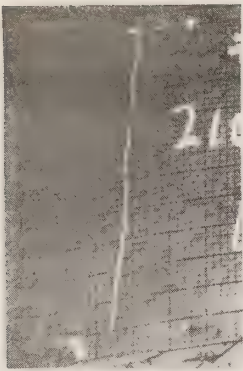


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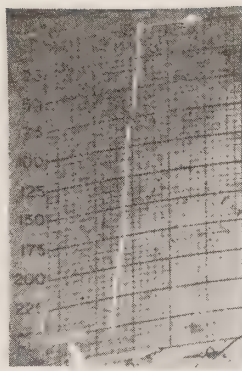


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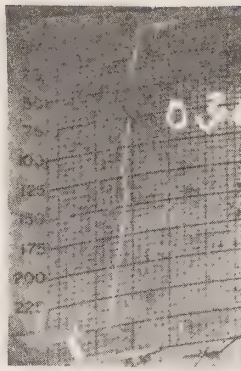




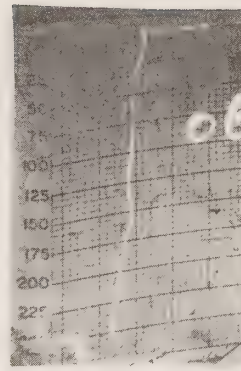
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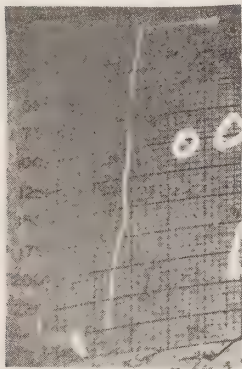
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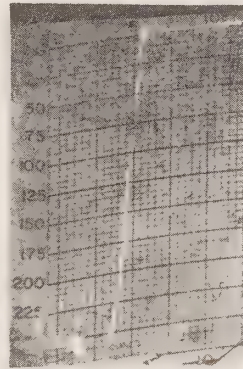
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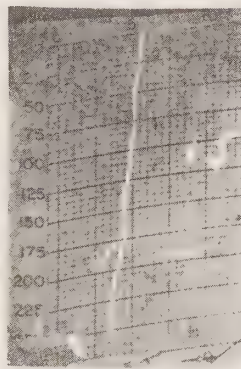
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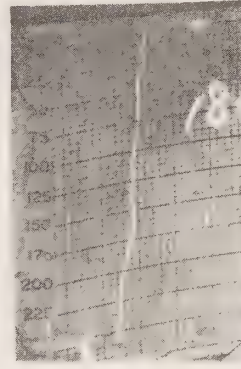
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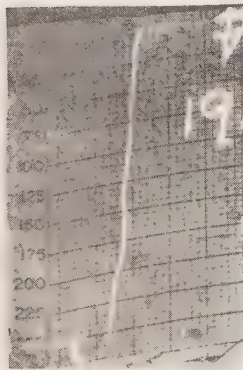
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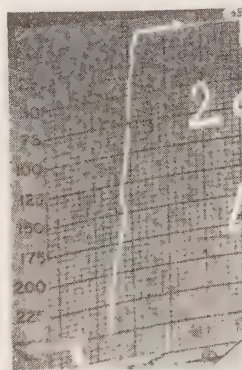
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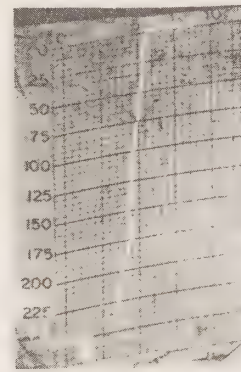
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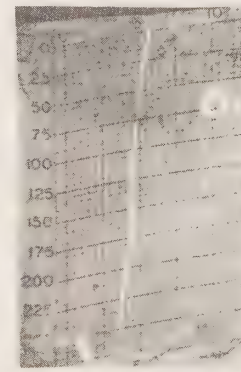
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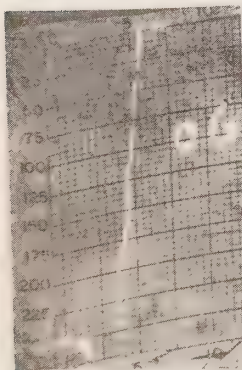
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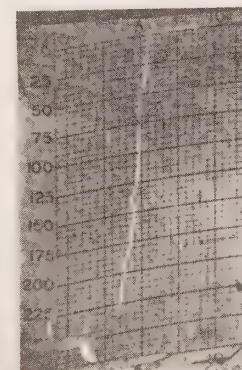
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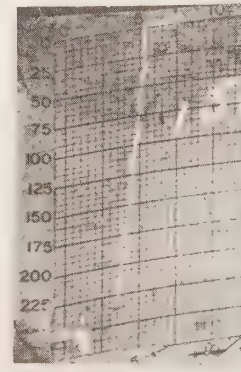
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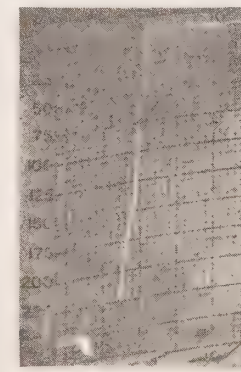
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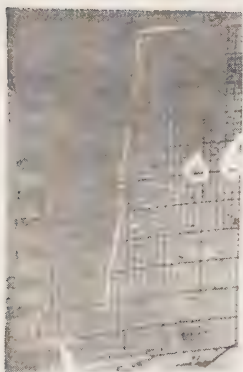
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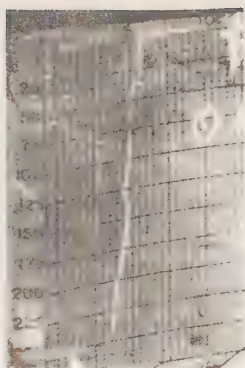
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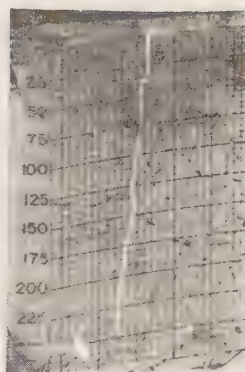
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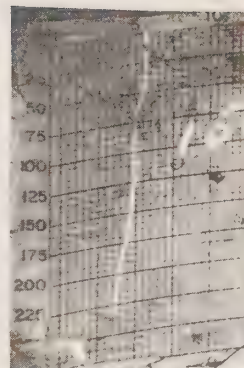
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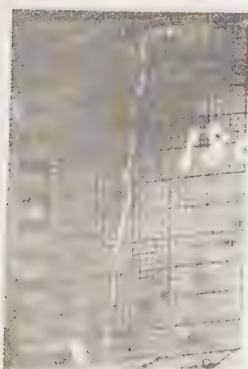
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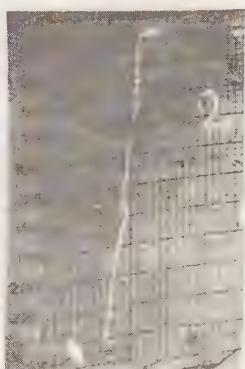
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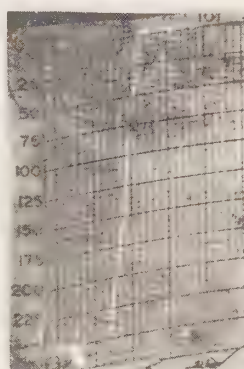
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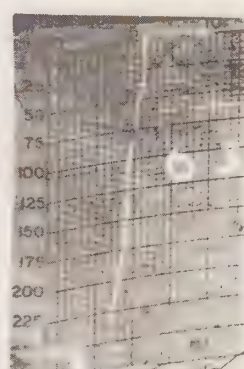
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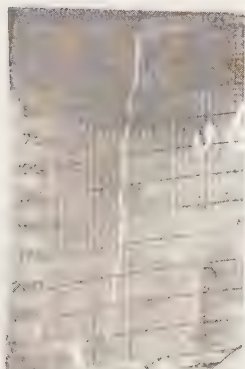
182



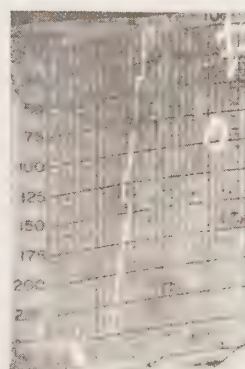
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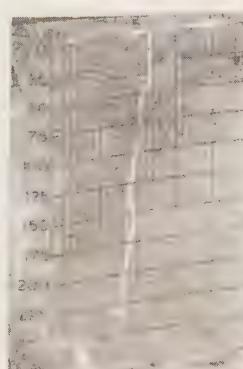
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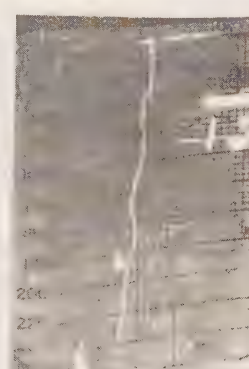
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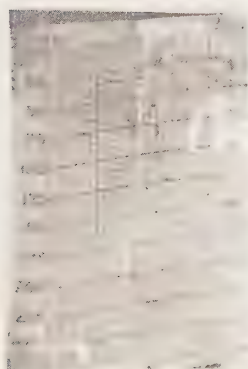
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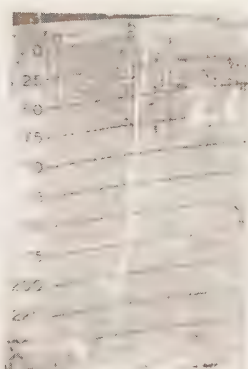
187



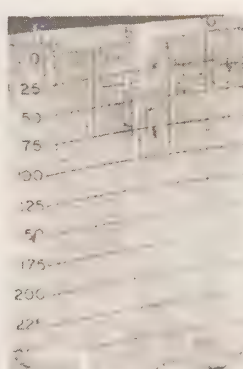
188



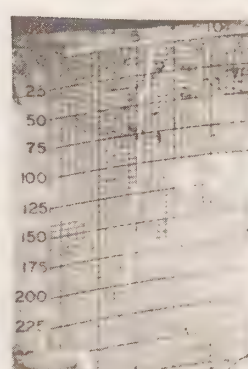
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190

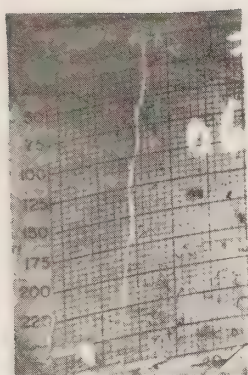


191

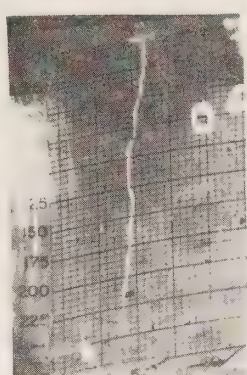


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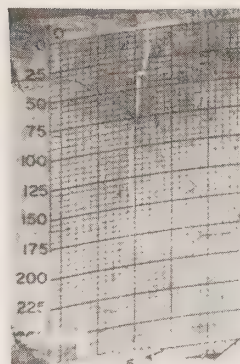




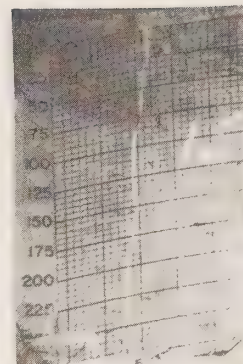
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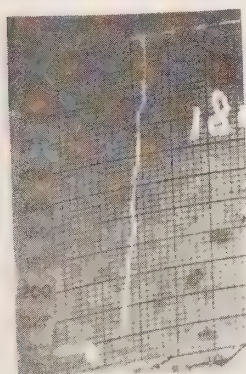
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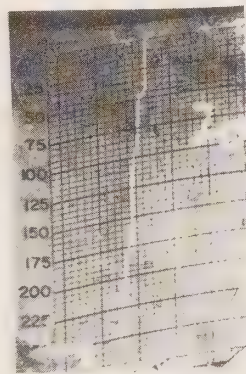
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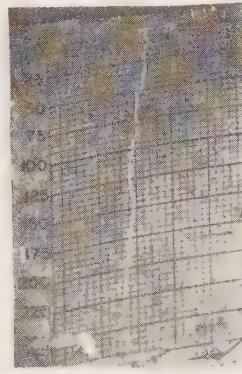
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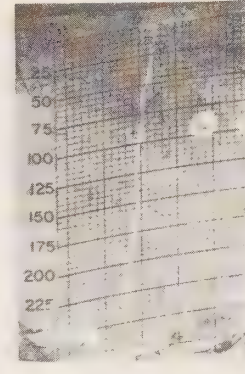
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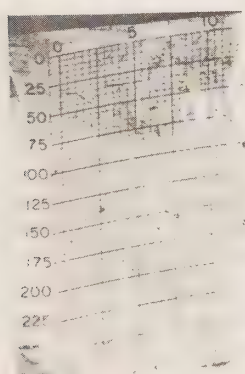
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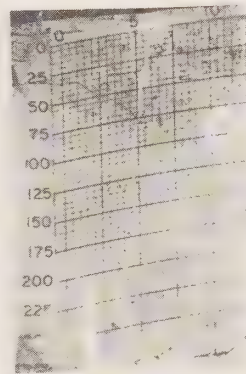
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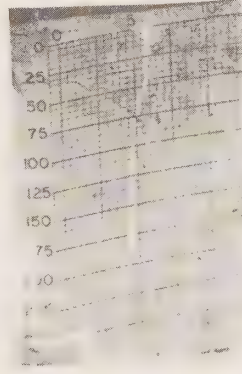
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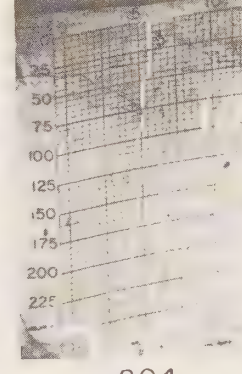
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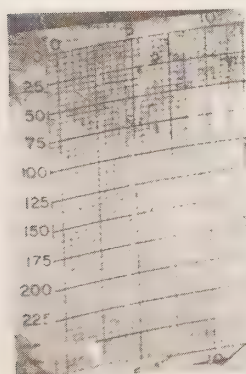
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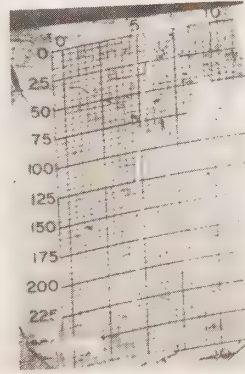
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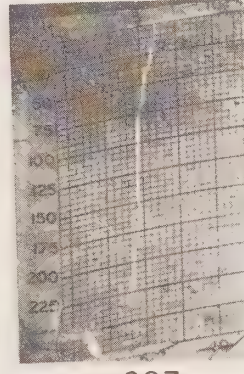
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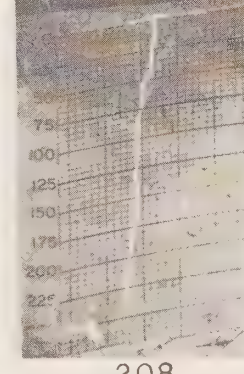
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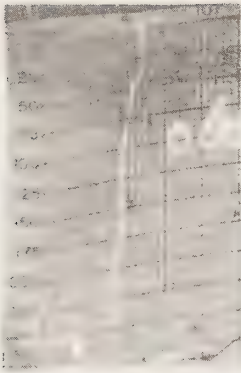


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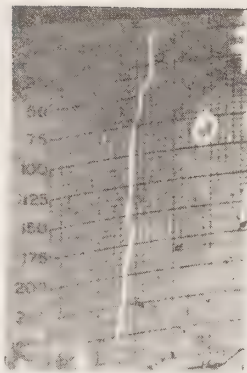


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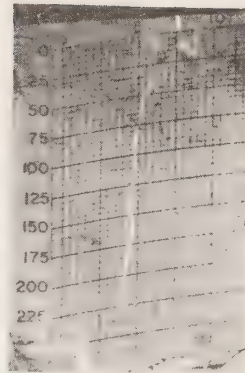




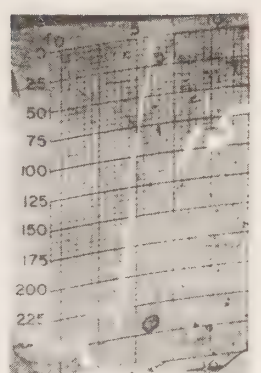
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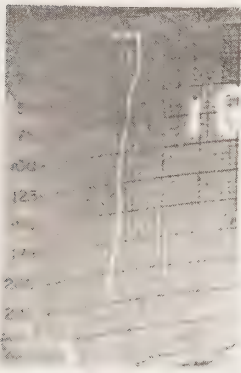
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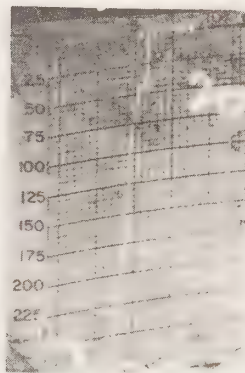
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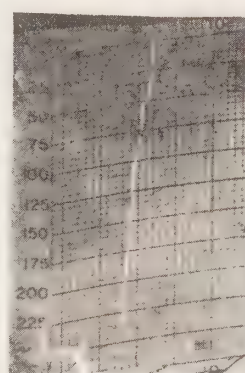
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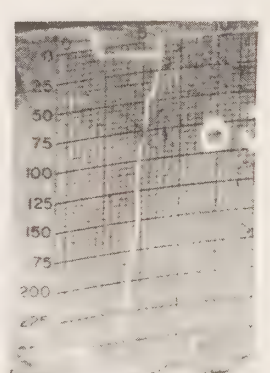
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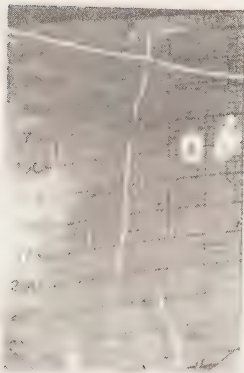
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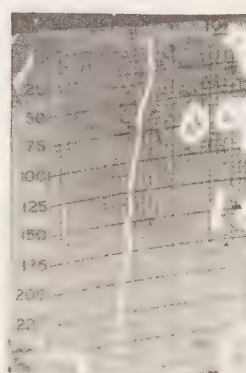
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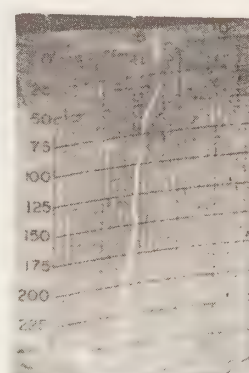
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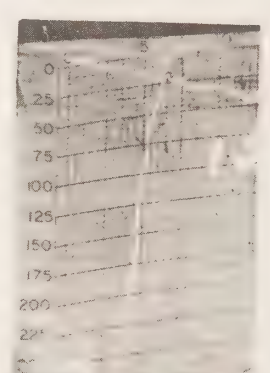
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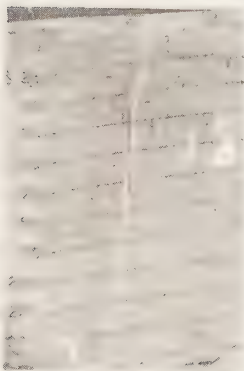
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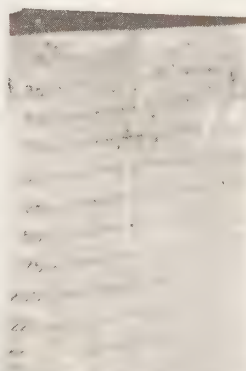
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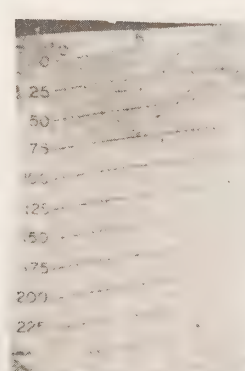
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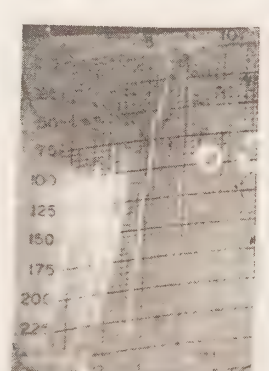
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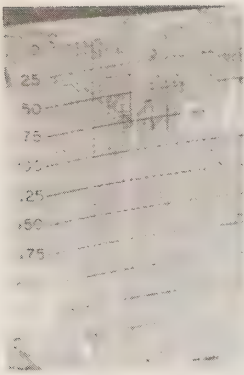


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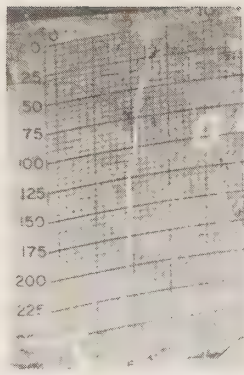


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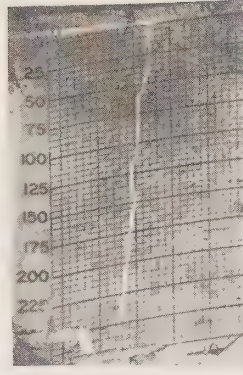




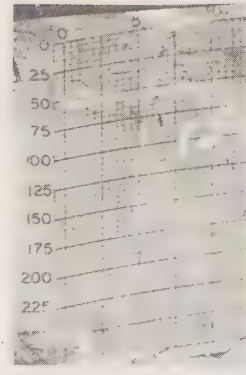
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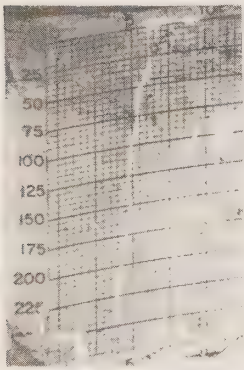
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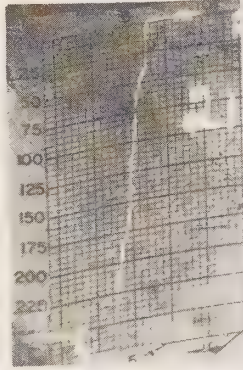
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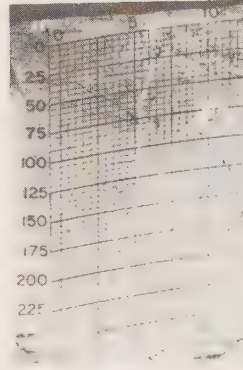
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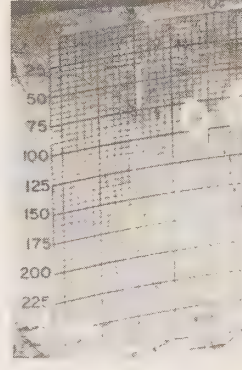
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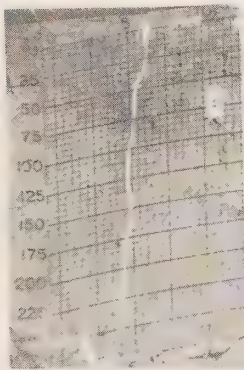
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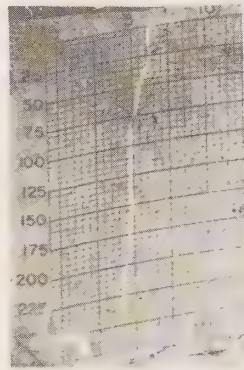
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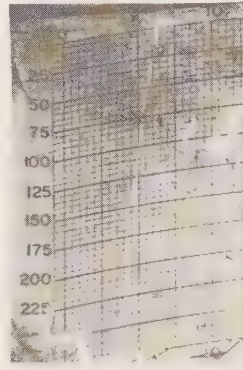
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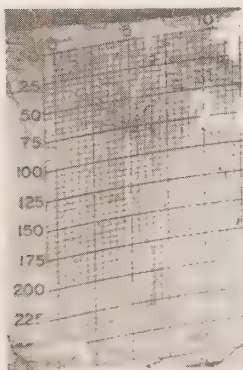
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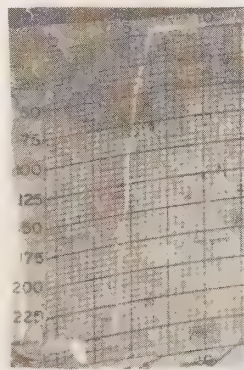
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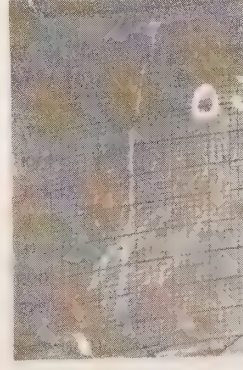
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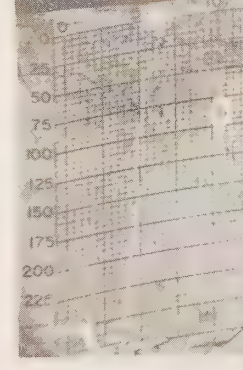
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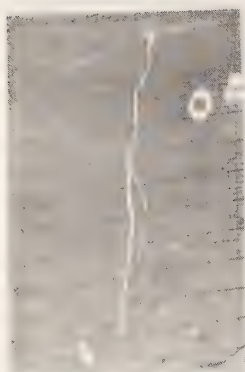


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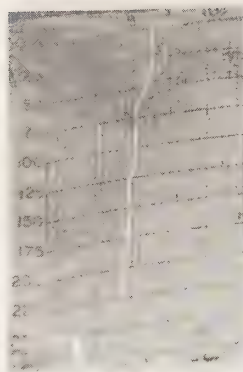


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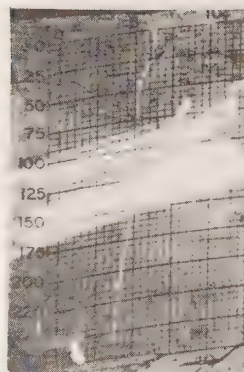




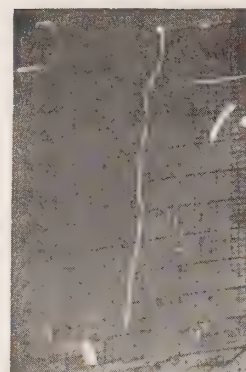
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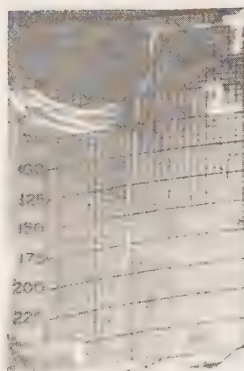
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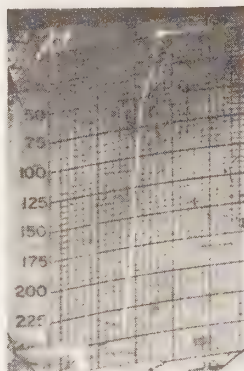
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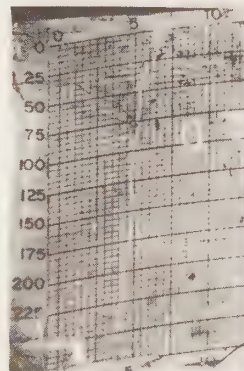
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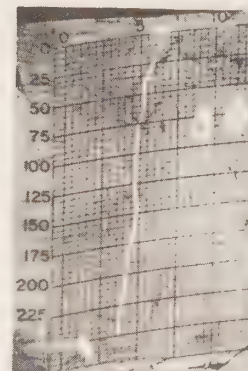
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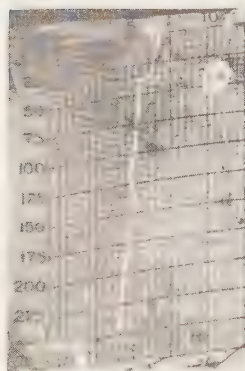
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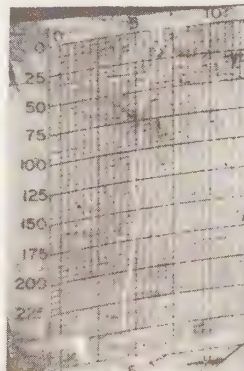
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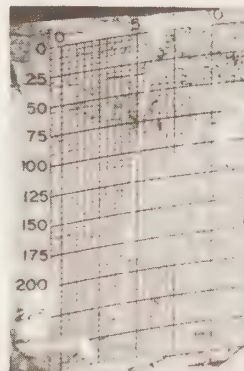
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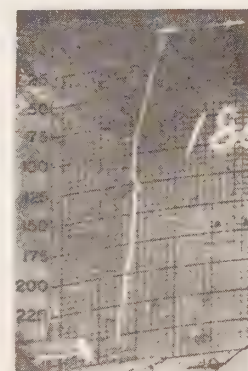
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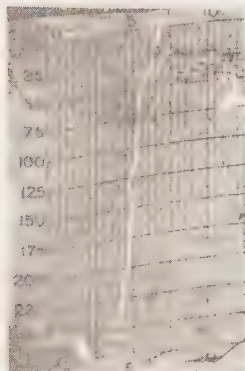
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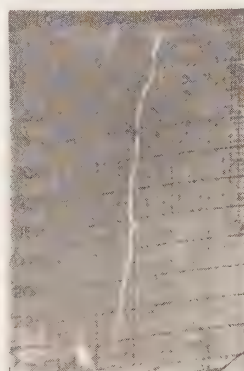
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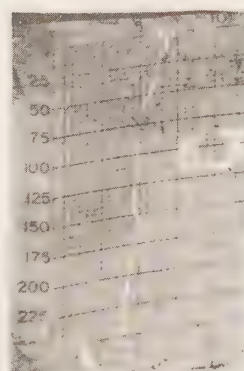
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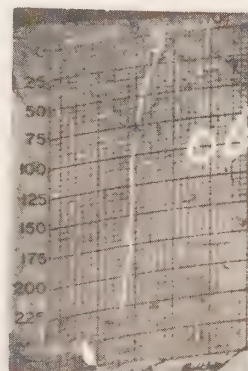
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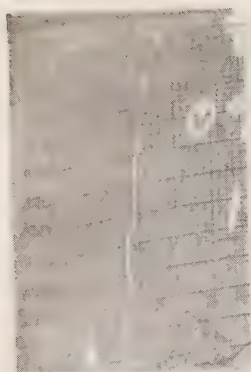


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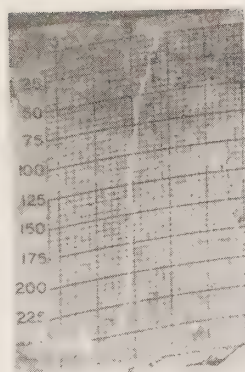


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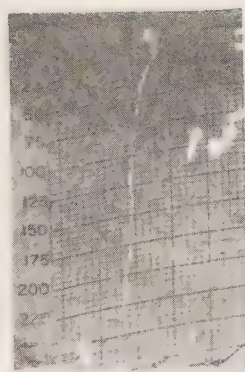




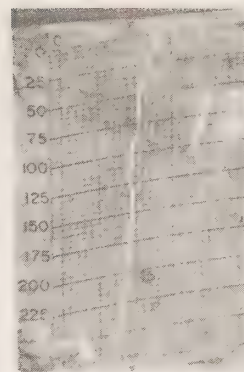
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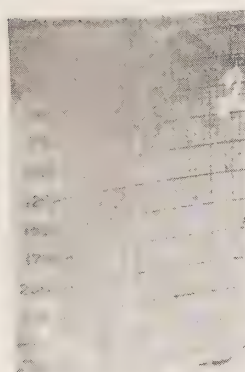
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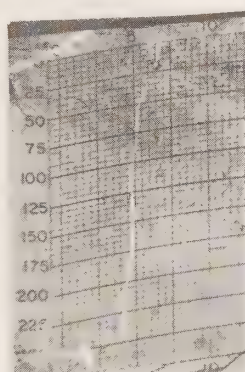
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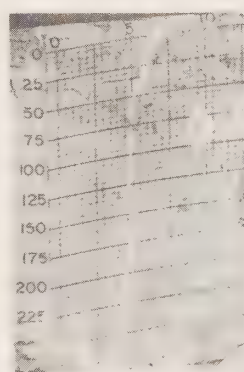
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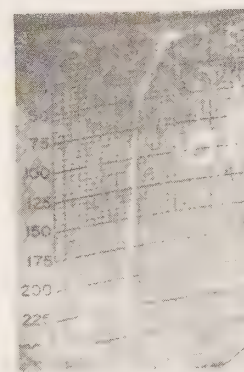
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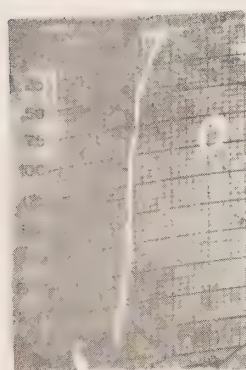
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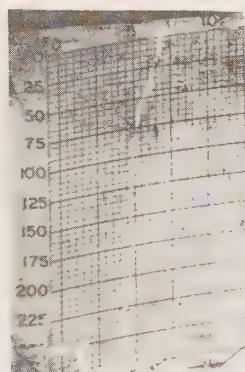
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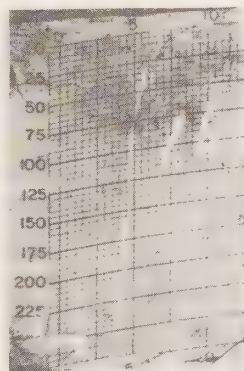
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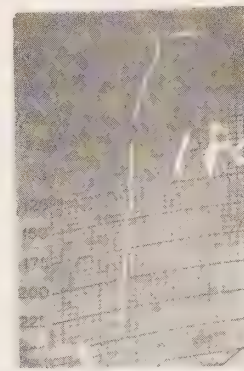
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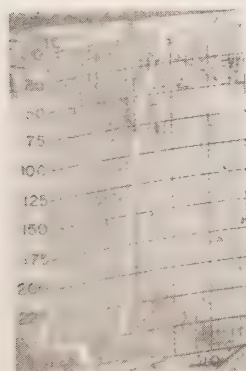
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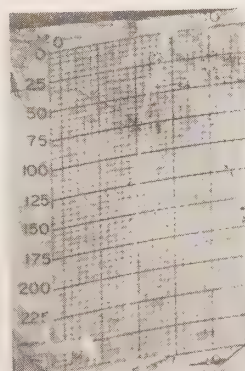
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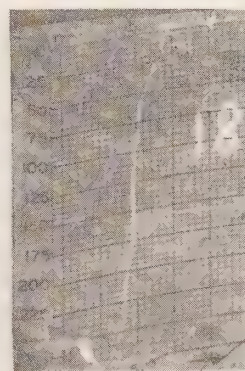
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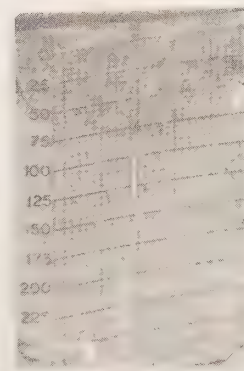
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270



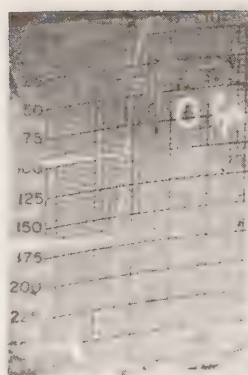
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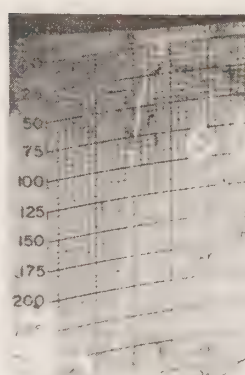
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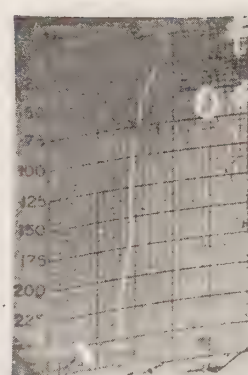
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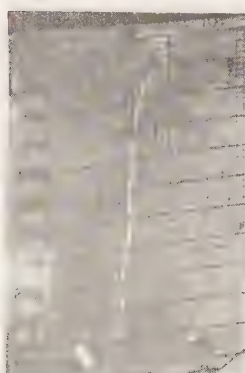
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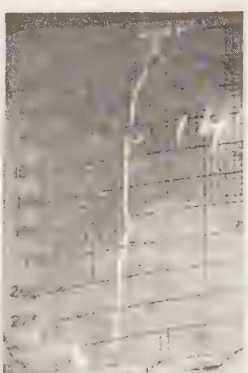
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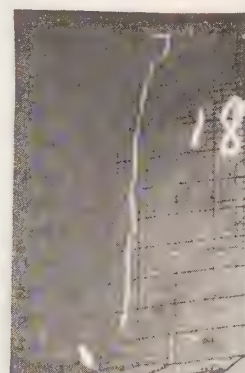
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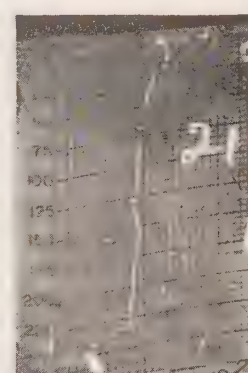
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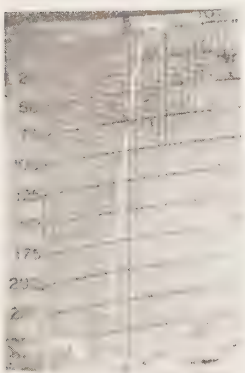
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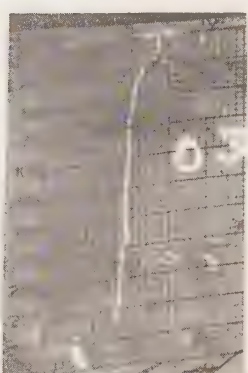
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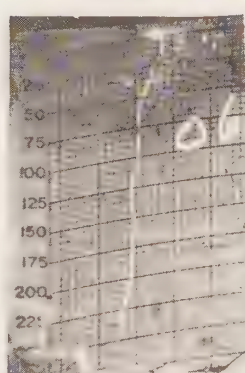
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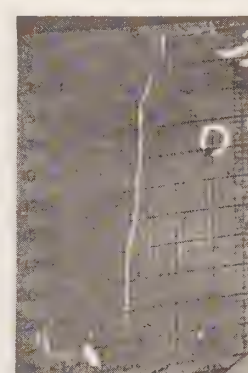
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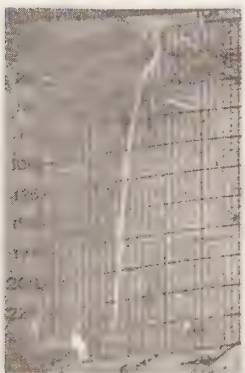
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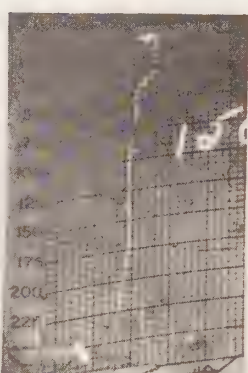
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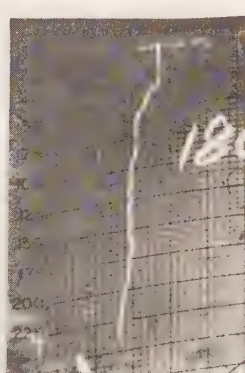
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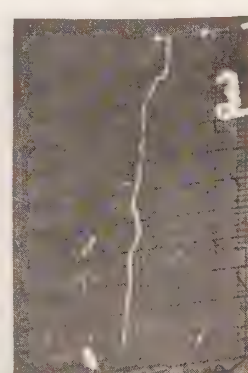
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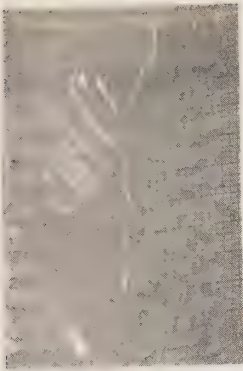


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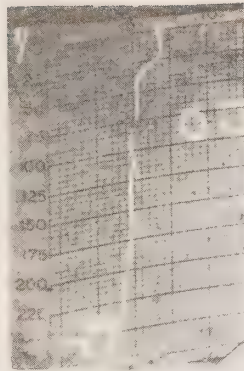


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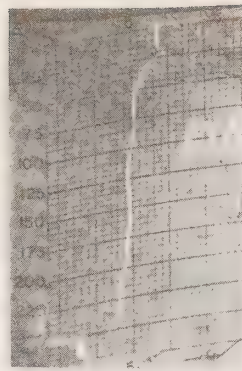




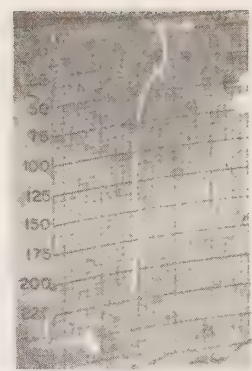
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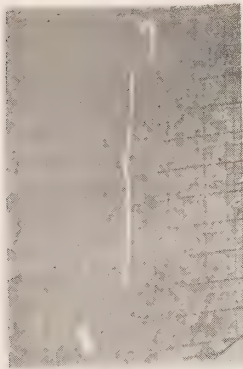
290



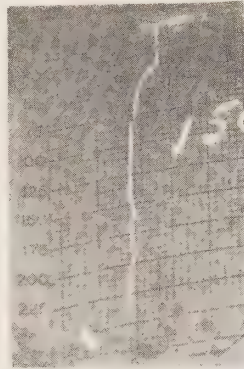
291



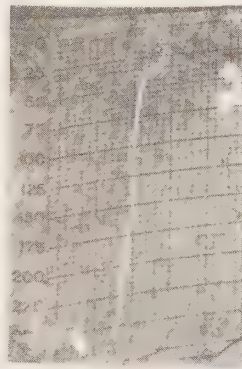
292



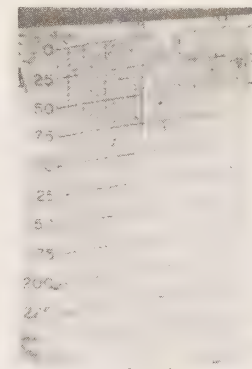
293



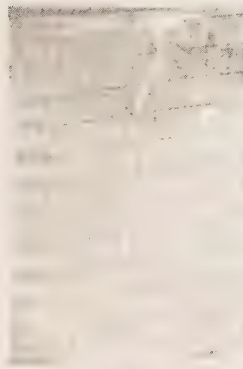
294



295



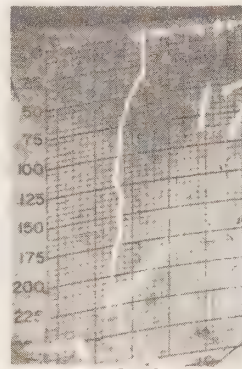
296



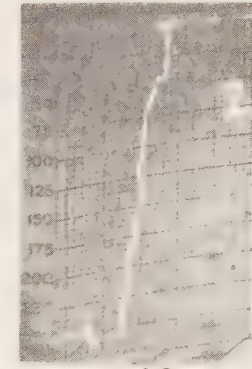
297



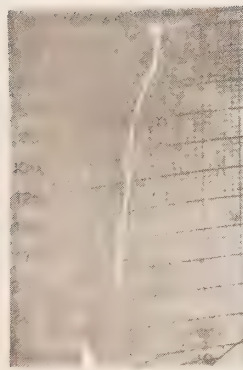
298



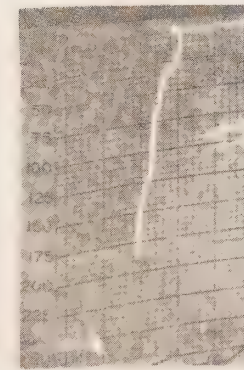
299



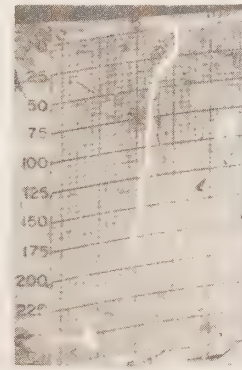
300



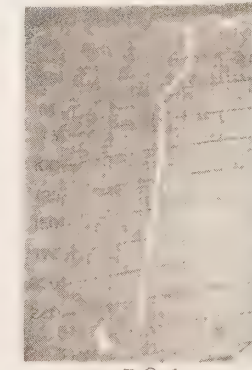
301



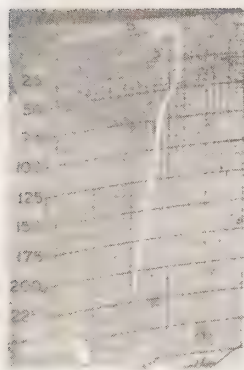
302



303



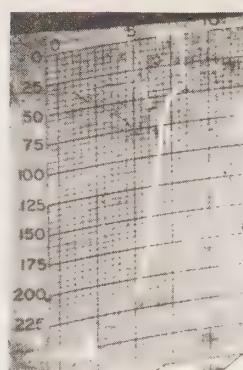
304



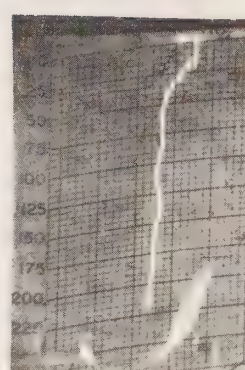
305



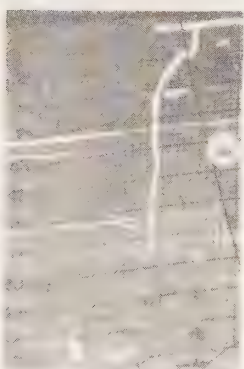
306



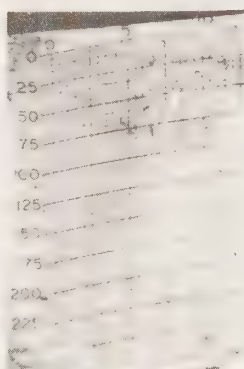
307



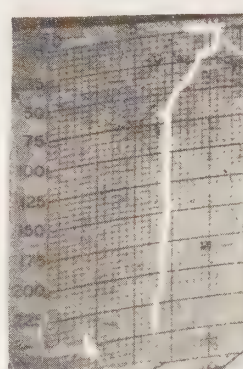
308



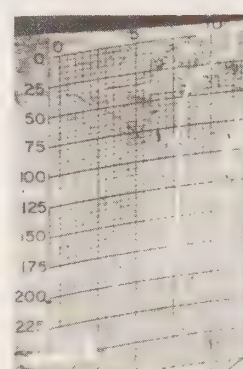
309



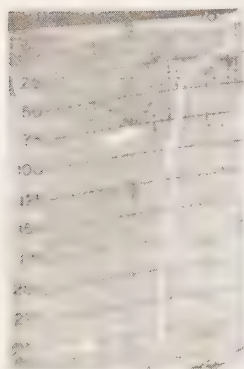
310



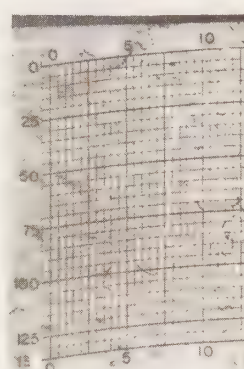
311



312



313



314

CCGS "STONETOWN" Patrol No. 74

BATHYTHERMOGRAMS





TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | I     | A |
| 1         | 48  | 34  | 125  | 32  | 20   | 05  | 67 | 00  | 00  | 0110            | 24         | 02         | 05          | XX  |   | 2X  |   | 4     | 8 |
| 2         | 48  | 38  | 126  | 00  | 20   | 05  | 67 | 01  | 40  | 0091            | 23         | 02         | 10          | 21  |   | 21  |   | 4     | 8 |
| 3         | 48  | 41  | 126  | 40  | 20   | 05  | 67 | 03  | 40  | 1300            | 22         | 02         | 10          | XX  |   | XX  |   | 4     | 8 |
| 4         | 48  | 46  | 127  | 40  | 20   | 05  | 67 | 06  | 30  | 2500            | 22         | 02         | 10          | XX  |   | XX  |   | 4     | 6 |
| 5         | 48  | 50  | 128  | 40  | 20   | 05  | 67 | 09  | 50  | 2529            | 22         | 02         | 09          | XX  |   | XX  |   | 4     | 8 |
| 6         | 49  | 02  | 129  | 40  | 20   | 05  | 67 | 12  | 25  | 2601            | 19         | 02         | 12          | 21  |   | XX  |   | 4     | 8 |
| 7         | 49  | 05  | 130  | 40  | 20   | 05  | 67 | 15  | 15  | 2930            | 18         | 12         | 18          | 22  |   | 33  |   | 7     | 8 |
| 9         | 49  | 04  | 132  | 40  | 20   | 05  | 67 | 19  | 00  | 3275            | 18         | 02         | 25          | 33  |   | 22  |   | X     | 8 |
| 10        | 49  | 03  | 133  | 40  | 20   | 05  | 67 | 21  | 45  | 3200            | 20         | 20         | 18          | 33  |   | 45  |   | 5     | 7 |
| 11        | 49  | 17  | 134  | 40  | 21   | 05  | 67 | 05  | 30  | 3550            | 22         | 02         | 10          | XX  |   | 34  |   | 5     | 3 |
| 12        | 49  | 21  | 135  | 40  | 21   | 05  | 67 | 08  | 00  | 3200            | 22         | 02         | 10          | XX  |   | XX  |   | 5     | 3 |
| 13        | 49  | 25  | 136  | 40  | 21   | 05  | 67 | 11  | 30  | 3775            | 23         | 03         | 18          | XX  |   | XX  |   | 3     | 5 |
| 14        | 49  | 30  | 137  | 40  | 21   | 05  | 67 | 14  | 50  | 3850            | 19         | 01         | 18          | 22  |   | 23  |   | 3     | 7 |
| 15        | 49  | 34  | 138  | 40  | 21   | 05  | 67 | 18  | 20  | 3890            | 17         | 02         | 20          | 24  |   | 23  |   | 6     | 8 |
| 16        | 49  | 39  | 139  | 40  | 21   | 05  | 67 | 22  | 55  | 3840            | 14         | 02         | 22          | 35  |   | 34  |   | 5     | 6 |
| 17        | 49  | 54  | 143  | 40  | 22   | 05  | 67 | 20  | 30  | 4023            | 19         | 02         | 15          | XX  |   | 42  |   | 6     | 6 |
| 18        | 50  | 00  | 144  | 34  | 23   | 05  | 67 | 02  | 30  | 4221            | 22         | 02         | 10          | 2X  |   | 23  |   | 7     | 7 |
| 19        | 49  | 59  | 144  | 59  | 23   | 05  | 67 | 06  | 30  | 4221            | 23         | 02         | 12          | XX  |   | XX  |   | X     | 8 |
| 20        | 49  | 58  | 144  | 56  | 23   | 05  | 67 | 09  | 00  | 4221            | 23         | 02         | 12          | XX  |   | XX  |   | X     | 8 |
| 21        | 50  | 00  | 144  | 50  | 23   | 05  | 67 | 12  | 00  | 4221            | 24         | 02         | 15          | XX  |   | XX  |   | 3     | 5 |
| 22        | 50  | 00  | 145  | 00  | 23   | 05  | 67 | 15  | 00  | 4221            | 22         | 02         | 12          | 2X  |   | 22  |   | 6     | 8 |
| 23        | 50  | 03  | 144  | 57  | 23   | 05  | 67 | 18  | 00  | 4221            | 24         | 02         | 12          | 23  |   |     |   | 6     | 8 |
| 24        | 50  | 04  | 144  | 51  | 23   | 05  | 67 | 21  | 00  | 4221            | 26         | 02         | 15          | 23  |   |     |   | 6     | 8 |
| 25        | 50  | 01  | 144  | 57  | 24   | 05  | 67 | 00  | 00  | 4221            | 22         | 02         | 20          | 22  |   |     |   | 6     | 8 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W 1 |   | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | I     | A |
| 26        | 50  | 07  | 145  | 00  | 24   | 05  | 67 | 03  | 00  | 4221            | 20         | 02         | 20          | 23  |   | 22  |   | 6     | 8 |
| 27        | 50  | 07  | 145  | 02  | 24   | 05  | 67 | 06  | 00  | 4221            | 16         | 02         | 25          | 23  |   |     |   | 6     | 8 |
| 28        | 50  | 02  | 144  | 50  | 24   | 05  | 67 | 15  | 00  | 4221            | 10         | 41         | 20          | 23  |   | 22  |   | 7     | 8 |
| 29        | 49  | 58  | 145  | 03  | 24   | 05  | 67 | 18  | 00  | 4221            | 10         | 28         | 15          | 23  |   |     |   | X     | X |
| 30        | 50  | 07  | 145  | 04  | 24   | 05  | 67 | 21  | 00  | 4221            | 09         | 28         | 20          | 23  |   |     |   | X     | X |
| 31        | 50  | 04  | 145  | 05  | 25   | 05  | 67 | 00  | 00  | 4221            | 08         | 02         | 18          | 23  |   | 7   |   | 6     | 7 |
| 32        | 49  | 58  | 145  | 03  | 25   | 05  | 67 | 03  | 00  | 4221            | 07         | 02         | 20          | 24  |   | 24  |   | 6     | 9 |
| 33        | 49  | 58  | 145  | 06  | 25   | 05  | 67 | 06  | 00  | 4221            | 06         | 02         | 20          | 24  |   | 24  |   | 6     | 8 |
| 34        | 49  | 59  | 145  | 02  | 25   | 05  | 67 | 09  | 00  | 4221            | 05         | 02         | 20          | 24  |   |     |   |       |   |
| 35        | 50  | 02  | 145  | 00  | 25   | 05  | 67 | 12  | 00  | 4221            | 04         | 02         | 20          | 24  |   |     |   | 5     | 8 |
| 36        | 50  | 04  | 145  | 00  | 25   | 05  | 67 | 15  | 00  | 4221            | 04         | 12         | 10          | XX  |   | 33  |   | X     | 9 |
| 37        | 50  | 05  | 145  | 00  | 25   | 05  | 67 | 18  | 00  | 4221            | 03         | 12         | 10          | XX  |   |     |   | 6     | 8 |
| 38        | 50  | 08  | 145  | 04  | 25   | 05  | 67 | 21  | 00  | 4221            | 03         | 02         | 10          | XX  |   |     |   | 6     | 8 |
| 39        | 50  | 03  | 145  | 00  | 26   | 05  | 67 | 00  | 00  | 4221            | 02         | 02         | 10          | XX  |   | XX  |   | 6     | 7 |
| 40        | 50  | 08  | 145  | 00  | 26   | 05  | 67 | 03  | 00  | 4221            | -98        | 02         | 10          | XX  |   | 23  |   | 6     | 7 |
| 41        | 50  | 10  | 144  | 58  | 26   | 05  | 67 | 06  | 00  | 4221            | -97        | 02         | 20          | XX  |   | 23  |   | 6     | 7 |
| 42        | 50  | 14  | 144  | 57  | 26   | 05  | 67 | 09  | 00  | 4221            | -93        | 02         | 25          | XX  |   | XX  |   | X     | X |
| 43        | 50  | 04  | 145  | 00  | 26   | 05  | 67 | 15  | 00  | 4221            | -93        | 02         | 20          | 21  |   | 33  |   | 6     | 8 |
| 44        | 50  | 00  | 145  | 20  | 29   | 05  | 67 | 00  | 00  | 4221            | 10         | 01         | 15          | 22  |   | 6   |   | 6     | 6 |
| 45        | 50  | 02  | 145  | 04  | 29   | 05  | 67 | 03  | 00  | 4221            | 11         | 01         | 15          | 24  |   | 6   |   | 7     | 7 |
| 46        | 50  | 00  | 145  | 00  | 29   | 05  | 67 | 06  | 00  | 4221            | 13         | 02         | 20          | 24  |   |     |   | 7     | 7 |
| 47        | 49  | 59  | 145  | 03  | 29   | 05  | 67 | 09  | 00  | 4221            | 13         | 02         | 15          |     |   |     |   | 7     | 6 |
| 48        | 49  | 58  | 144  | 59  | 29   | 05  | 67 | 12  | 00  | 4221            | 13         | 02         | 15          |     |   |     |   | 7     | 6 |
| 49        | 50  | 00  | 144  | 56  | 29   | 05  | 67 | 15  | 00  | 4221            | 12         | 02         | 06          | XX  |   | 21  |   | 7     | 8 |
| 50        | 50  | 01  | 144  | 54  | 29   | 05  | 64 | 18  | 00  | 4221            | 12         | 02         | 15          | XX  |   | XX  |   | X     | 9 |



TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W 1 |   | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 51        | 50  | 03  | 144  | 55  | 29   | 05  | 67 | 21  | 00  | 4221            | 10         | 02         | 20          | XX  |   | XX  |   | X     | 9 |
| 52        | 49  | 58  | 144  | 53  | 30   | 05  | 67 | 00  | 00  | 4221            | 10         | 12         | 25          | 22  |   | XX  |   | 7     | 9 |
| 53        | 49  | 58  | 144  | 55  | 30   | 05  | 67 | 03  | 00  | 4221            | 12         | 02         | 20          | 21  |   | 33  |   | 7     | 9 |
| 54        | 50  | 01  | 144  | 55  | 30   | 05  | 67 | 06  | 00  | 4221            | 14         | 02         | 15          | 21  |   |     |   | 7     | 9 |
| 55        | 50  | 03  | 144  | 57  | 30   | 05  | 67 | 09  | 00  | 4221            | 16         | 02         | 15          |     |   |     |   | X     | 9 |
| 56        | 50  | 01  | 145  | 01  | 30   | 05  | 67 | 12  | 00  | 4221            | 17         | 02         | 10          |     |   |     |   |       | 9 |
| 57        | 50  | 05  | 145  | 02  | 30   | 05  | 67 | 15  | 00  | 4221            | 18         | 02         | 10          | XX  |   | XX  |   | 7     | 8 |
| 58        | 49  | 55  | 145  | 00  | 30   | 05  | 67 | 18  | 00  | 4221            | 18         | 02         | 20          | 21  |   | XX  |   | 7     | 8 |
| 59        | 49  | 59  | 145  | 04  | 30   | 05  | 67 | 21  | 00  | 4221            | 18         | 02         | 25          | 32  |   | XX  |   | 7     | 8 |
| 60        | 49  | 59  | 145  | 04  | 31   | 05  | 67 | 00  | 00  | 4221            | 18         | 02         | 25          | 32  |   |     |   | 5     | 8 |
| 61        | 50  | 03  | 145  | 05  | 31   | 05  | 67 | 03  | 00  | 4221            | 16         | 02         | 25          | 32  |   | XX  |   | 5     | 8 |
| 62        | 50  | 05  | 145  | 06  | 31   | 05  | 67 | 06  | 00  | 4221            | 15         | 02         |             | 33  |   | XX  |   | 6     | 8 |
| 63        | 50  | 00  | 145  | 07  | 31   | 05  | 67 | 15  | 00  | 4221            | 12         | 02         | 28          | 33  |   | XX  |   | 7     | 8 |
| 64        | 49  | 59  | 144  | 58  | 31   | 05  | 67 | 18  | 00  | 4221            | 13         | 02         | 25          | 32  |   | XX  |   | X     | 9 |
| 65        | 50  | 01  | 144  | 57  | 31   | 05  | 67 | 21  | 00  | 4221            | 14         | 02         | 20          | 32  |   | XX  |   | X     | 9 |
| 66        | 50  | 00  | 145  | 00  | 01   | 06  | 67 | 00  | 00  | 4221            | 15         | 01         | 20          | 21  |   | 2   |   | 4     | 8 |
| 67        | 50  | 00  | 145  | 00  | 01   | 06  | 67 | 03  | 00  | 4221            | 17         | 02         | 10          | 21  |   | X2  |   | 4     | 8 |
| 68        | 50  | 03  | 144  | 58  | 01   | 06  | 67 | 06  | 00  | 4221            | 19         | 02         | 05          | XX  |   | 33  |   | 4     | 8 |
| 69        | 50  | 05  | 144  | 57  | 01   | 06  | 67 | 09  | 00  | 4221            | 20         | 02         | 05          | XX  |   | XX  |   | X     | X |
| 70        | 50  | 00  | 145  | 02  | 01   | 06  | 67 | 12  | 00  | 4221            | 20         | 02         | 05          | XX  |   | XX  |   | 4     | 4 |
| 71        | 50  | 03  | 144  | 59  | 01   | 06  | 67 | 15  | 00  | 4221            | 20         | 01         | 05          | XX  |   | 33  |   | 7     | 8 |
| 72        | 50  | 05  | 144  | 57  | 01   | 06  | 67 | 18  | 00  | 4221            | 21         | 02         | 10          | XX  |   | 33  |   | X     | 9 |
| 73        | 50  | 06  | 144  | 55  | 01   | 06  | 67 | 21  | 00  | 4221            | 22         | 02         | 10          | XX  |   | 41  |   | X     | 9 |
| 74        | 50  | 05  | 144  | 56  | 02   | 06  | 67 | 00  | 00  | 4221            | 23         | 29         | 10          | XX  |   | 31  |   | 7     | 9 |
| 75        | 50  | 03  | 145  | 00  | 02   | 06  | 67 | 03  | 00  | 4221            | 23         | 45         | 06          | XX  |   | 21  |   | X     | 9 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 76        | 50  | 00  | 145  | 01  | 02   | 06  | 67 | 06  | 00  | 4221            | 24         | 45         | 10          | XX  |   | 21  |   | X     | 9 |
| 77        | 50  | 01  | 145  | 02  | 02   | 06  | 67 | 09  | 00  | 4221            | 25         | 45         | 10          | XX  |   | XX  |   | X     | 9 |
| 78        | 50  | 00  | 145  | 03  | 02   | 06  | 67 | 12  | 00  | 4221            | 25         | 42         | 10          | XX  |   | XX  |   |       | 8 |
| 79        | 50  | 01  | 145  | 05  | 02   | 06  | 67 | 15  | 00  | 4221            | 25         | 01         | 15          | 21  |   |     |   | 3     | 7 |
| 80        | 50  | 02  | 145  | 02  | 02   | 06  | 67 | 18  | 00  | 4221            | 26         | 02         | 20          | XX  |   | XX  |   | 6     | 7 |
| 81        | 50  | 10  | 144  | 57  | 02   | 06  | 67 | 21  | 00  | 4221            | 26         | 45         | 15          | XX  |   | XX  |   | X     | 9 |
| 82        | 49  | 57  | 145  | 02  | 03   | 06  | 67 | 00  | 00  | 4221            | 26         | 01         | 10          | 1   |   | 3   |   | 5     | 3 |
| 83        | 50  | 00  | 145  | 03  | 03   | 06  | 67 | 03  | 00  | 4221            | 26         | 02         | 01          | XX  |   | 21  |   | X     | 9 |
| 84        | 50  | 01  | 145  | 02  | 03   | 06  | 67 | 06  | 00  | 4221            | 26         | 02         | 10          | XX  |   | 21  |   | X     | 9 |
| 85        | 50  | 05  | 145  | 00  | 03   | 06  | 67 | 09  | 00  | 4221            | 27         | 45         | 10          | XX  |   | 11  |   | X     | 9 |
| 86        | 49  | 56  | 145  | 00  | 03   | 06  | 67 | 12  | 00  | 4221            | 26         | 42         | 15          | XX  |   | 1   |   |       | 9 |
| 87        | 49  | 59  | 145  | 01  | 03   | 06  | 67 | 15  | 00  | 4221            | 26         | 45         | 08          | XX  |   | X1  |   | X     | 9 |
| 88        | 50  | 00  | 145  | 04  | 03   | 06  | 67 | 18  | 00  | 4221            | 24         | 45         | 20          | XX  |   | XX  |   | X     | 9 |
| 89        | 50  | 03  | 145  | 06  | 03   | 06  | 67 | 21  | 00  | 4221            | 24         | 45         | 20          | XX  |   | XX  |   | X     | 9 |
| 90        | 50  | 00  | 145  | 00  | 04   | 06  | 67 | 00  | 00  | 4221            | 24         | 02         | 20          | 2   |   | 46  |   | 6     | 9 |
| 91        | 50  | 06  | 144  | 58  | 04   | 06  | 67 | 03  | 00  | 4221            | 24         | 02         | 12          | X2  |   | 34  |   | 7     | 9 |
| 92        | 49  | 56  | 144  | 58  | 04   | 06  | 67 | 06  | 00  | 4221            | 24         | 02         | 15          | X2  |   | XX  |   | X     | 9 |
| 93        | 50  | 01  | 144  | 59  | 04   | 06  | 67 | 09  | 00  | 4221            | 24         | 02         | 10          | XX  |   | XX  |   | X     | X |
| 94        | 50  | 00  | 144  | 59  | 04   | 06  | 67 | 12  | 00  | 4221            | 24         | 02         | 15          | XX  |   | XX  |   | X     | X |
| 95        | 50  | 02  | 144  | 58  | 04   | 06  | 67 | 15  | 00  | 4221            | 25         | 02         | XX          | XX  |   | 34  |   | 7     | 8 |
| 96        | 50  | 01  | 144  | 58  | 04   | 06  | 67 | 18  | 00  | 4221            | 25         | 02         | 10          | XX  |   | 34  |   | 7     | 8 |
| 97        | 50  | 03  | 144  | 56  | 04   | 06  | 67 | 21  | 00  | 4221            | 26         | 02         | 10          | XX  |   | 33  |   | 7     | 8 |
| 98        | 50  | 01  | 145  | 01  | 05   | 06  | 67 | 00  | 00  | 4221            | 26         | 42         | 15          | 1   |   | 44  |   | 7     | 8 |
| 99        | 50  | 02  | 145  | 00  | 05   | 06  | 67 | 03  | 00  | 4221            | 26         | 01         | 15          | XX  |   | 44  |   | 7     | 2 |
| 100       | 49  | 58  | 145  | 02  | 05   | 06  | 67 | 06  | 00  | 4221            | 26         | 02         | 15          | XX  |   | 44  |   | 7     | 8 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Am | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |            | P   | H  | P   | H | T     | A |
| 126       | 49  | 58  | 145  | 00  | 08   | 06  | 67 | 15  | 00  | 4221            | 30         | 02         | 14         | 21  | 23 | 7   | 9 |       |   |
| 127       | 49  | 58  | 145  | 00  | 08   | 06  | 67 | 18  | 00  | 4221            | 29         | 21         | 15         | 21  | 23 | 3   | 8 |       |   |
| 128       | 49  | 59  | 145  | 00  | 08   | 06  | 67 | 21  | 00  | 4221            | 28         | 01         | 15         | 21  | 23 | 3   | 8 |       |   |
| 129       | 50  | 03  | 144  | 58  | 09   | 06  | 67 | 00  | 00  | 4221            | 27         | 02         | 15         | 21  | 23 | 7   | 8 |       |   |
| 130       | 50  | 04  | 144  | 58  | 09   | 06  | 67 | 03  | 00  | 4221            | 26         | 02         | 20         | 21  | 23 | 7   | 7 |       |   |
| 131       | 49  | 59  | 144  | 59  | 09   | 06  | 67 | 06  | 00  | 4221            | 23         | 02         | 20         | 21  | XX |     |   |       |   |
| 132       | 49  | 56  | 145  | 00  | 09   | 06  | 67 | 12  | 00  | 4221            | 20         | 02         | 28         | XX  | XX |     |   | 8     |   |
| 133       | 50  | 05  | 144  | 53  | 09   | 06  | 67 | 15  | 00  | 4221            | 18         | 02         | 28         | 22  | 34 | X   | 9 |       |   |
| 134       | 50  | 00  | 145  | 04  | 10   | 06  | 67 | 03  | 00  | 4221            | 26         | 02         | 10         | 22  | 35 | X   | 9 |       |   |
| 135       | 50  | 01  | 145  | 08  | 10   | 06  | 67 | 06  | 00  | 4221            | 17         | 02         | 20         | XX  | XX | X   | 9 |       |   |
| 136       | 50  | 00  | 145  | 05  | 10   | 06  | 67 | 09  | 00  | 4221            | 18         | 12         | 18         | 21  | 21 | 7   | 9 |       |   |
| 137       | 49  | 57  | 144  | 58  | 10   | 06  | 67 | 12  | 00  | 4221            | 18         | 02         | 15         | XX  | XX | 7   | 9 |       |   |
| 138       | 50  | 02  | 144  | 55  | 10   | 06  | 67 | 15  | 00  | 4221            | 18         | 02         | 15         | 21  | 34 | 7   | 9 |       |   |
| 139       | 50  | 01  | 144  | 52  | 10   | 06  | 67 | 18  | 00  | 4221            | 19         | 02         | 15         | 21  | 32 | 7   | 8 |       |   |
| 140       | 50  | 04  | 144  | 51  | 10   | 06  | 67 | 21  | 00  | 4221            | 19         | 02         | 15         | 21  | 31 | 7   | 8 |       |   |
| 141       | 50  | 00  | 144  | 59  | 11   | 06  | 67 | 00  | 00  | 4221            | 19         | 02         | 12         | 21  | 31 | 7   | 8 |       |   |
| 142       | 50  | 00  | 144  | 59  | 11   | 06  | 67 | 03  | 00  | 4221            | 19         | 02         | 12         | 21  | 21 | 7   | 8 |       |   |
| 143       | 50  | 00  | 144  | 52  | 11   | 06  | 67 | 06  | 00  | 4221            | 17         | 02         | 08         | 21  | 21 | X   | 9 |       |   |
| 144       | 50  | 02  | 144  | 52  | 11   | 06  | 67 | 09  | 00  | 4221            | 17         | 02         | 08         | XX  | XX | X   | 9 |       |   |
| 145       | 50  | 00  | 145  | 00  | 11   | 06  | 67 | 12  | 00  | 4221            | 17         | 02         | 08         | XX  | XX | X   | 9 |       |   |
| 146       | 50  | 00  | 145  | 00  | 11   | 06  | 67 | 15  | 00  | 4221            | 17         | 02         | 01         | XX  | XX | 6   | 8 |       |   |
| 147       | 50  | 02  | 145  | 00  | 11   | 06  | 67 | 18  | 00  | 4221            | 17         | 02         | X4         | XX  | XX | 7   | 8 |       |   |
| 148       | 50  | 00  | 144  | 58  | 11   | 06  | 67 | 21  | 00  | 4221            | 16         | 02         | 00         | XX  | XX | 7   | 8 |       |   |
| 149       | 50  | 00  | 144  | 57  | 12   | 06  | 67 | 00  | 00  | 4221            | 16         | 01         |            | 00  | 00 | 5   | 6 |       |   |
| 150       | 50  | 00  | 144  | 56  | 12   | 06  | 67 | 03  | 00  | 4221            | 15         | 02         | 15         | XX  | XX | 7   | 8 |       |   |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 101       | 49  | 56  | 145  | 03  | 05   | 06  | 67 | 09  | 00  | 4221            | 28         | 02         | 15          | XX  |   | XX  |   | 7     | 8 |
| 102       | 49  | 57  | 145  | 03  | 05   | 06  | 67 | 12  | 00  | 4221            | 28         | 02         | 15          | XX  |   | XX  |   | 7     | 8 |
| 103       | 49  | 58  | 144  | 58  | 05   | 06  | 67 | 15  | 00  | 4221            | 29         | 02         | 10          | X1  |   | 11  |   | 7     | 8 |
| 104       | 49  | 58  | 144  | 57  | 05   | 06  | 67 | 18  | 00  | 4221            | 30         | 02         | 10          | X1  |   | XX  |   | 7     | 8 |
| 105       | 49  | 56  | 144  | 54  | 05   | 06  | 67 | 21  | 00  | 4221            | 31         | 02         | 10          | XX  |   | XX  |   | 7     | 8 |
| 106       | 49  | 56  | 145  | 02  | 06   | 06  | 67 | 00  | 00  | 4221            | 32         | 02         | 10          | X1  |   | XX  |   | 7     | 8 |
| 107       | 50  | 01  | 144  | 58  | 06   | 06  | 67 | 03  | 00  | 4221            | 32         | 02         | 10          | X1  |   | 22  |   | 8     | 7 |
| 108       | 49  | 59  | 144  | 58  | 06   | 06  | 67 | 06  | 00  | 4221            | 32         | 02         | 10          | XX  |   | 22  |   | 7     | 8 |
| 109       | 49  | 58  | 144  | 55  | 06   | 06  | 67 | 09  | 00  | 4221            | 32         | 02         | 10          | XX  |   | XX  |   | 7     | 8 |
| 110       | 49  | 57  | 144  | 55  | 06   | 06  | 67 | 12  | 00  | 4221            | 33         | 02         | 10          | XX  |   | XX  |   | 7     | 8 |
| 111       | 50  | 01  | 145  | 00  | 06   | 06  | 67 | 15  | 00  | 4221            | 33         | 02         | 08          | XX  |   | XX  |   | 4     | 7 |
| 112       | 50  | 03  | 144  | 58  | 06   | 06  | 67 | 18  | 00  | 4221            | 34         | 02         | 10          | XX  |   | XX  |   | 6     | 7 |
| 113       | 50  | 07  | 144  | 53  | 06   | 06  | 67 | 21  | 00  | 4221            | 34         | 02         | 05          | XX  |   | XX  |   | 6     | 7 |
| 114       | 50  | 04  | 144  | 58  | 07   | 06  | 67 | 00  | 00  | 4221            | 34         | 03         | 10          | 21  |   |     |   | 5     | 7 |
| 115       | 50  | 02  | 145  | 01  | 07   | 06  | 67 | 03  | 00  | 4221            | 34         | 02         | 06          | 21  |   | XX  |   | 6     | 7 |
| 116       | 49  | 59  | 144  | 58  | 07   | 06  | 67 | 06  | 00  | 4221            | 34         | 02         | 06          | XX  |   | XX  |   | 6     | 7 |
| 117       | 50  | 01  | 144  | 56  | 07   | 06  | 67 | 09  | 00  | 4221            | 34         | 02         | 10          | XX  |   | XX  |   | 6     | 7 |
| 118       | 50  | 00  | 145  | 00  | 07   | 06  | 67 | 12  | 00  | 4221            | 34         | 02         | 15          | XX  |   | XX  |   | 6     | 7 |
| 119       | 50  | 02  | 145  | 00  | 07   | 06  | 67 | 15  | 00  | 4221            | 34         | 02         | 08          | XX  |   | 12  |   | 6     | 8 |
| 120       | 50  | 03  | 144  | 58  | 07   | 06  | 67 | 18  | 00  | 4221            | 33         | 02         | 10          | XX  |   | 12  |   | 6     | 8 |
| 121       | 50  | 03  | 144  | 58  | 08   | 06  | 67 | 00  | 00  | 4221            | 32         | 02         | 15          | 21  |   | 11  |   | 6     | 7 |
| 122       | 50  | 05  | 144  | 58  | 08   | 06  | 67 | 03  | 00  | 4221            | 32         | 02         | 15          | 21  |   | 11  |   | 6     | 7 |
| 123       | 49  | 58  | 144  | 58  | 08   | 06  | 67 | 06  | 00  | 4221            | 32         | 02         | 12          | 21  |   | 11  |   | 6     | 8 |
| 124       | 50  | 00  | 145  | 01  | 08   | 06  | 67 | 09  | 00  | 4221            | 30         | 02         | 12          | XX  |   | XX  |   | X     | 8 |
| 125       | 50  | 01  | 145  | 02  | 08   | 06  | 67 | 12  | 00  | 4221            | 30         | 02         | 12          | XX  |   | XX  |   | X     | 8 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | I     | A |
| 151       | 50  | 03  | 144  | 57  | 12   | 06  | 67 | 06  | 00  | 4221            | 15         | 02         | 15          | 31  | 21 | 7   | 8 |       |   |
| 152       | 50  | 03  | 144  | 58  | 12   | 06  | 67 | 09  | 00  | 4221            | 14         | 02         | 15          | XX  | XX | X   | 9 |       |   |
| 153       | 50  | 00  | 145  | 00  | 12   | 06  | 67 | 12  | 00  | 4221            | 11         | 02         | 22          | XX  | XX | X   | 9 |       |   |
| 154       | 50  | 05  | 145  | 03  | 12   | 06  | 67 | 15  | 00  | 4221            | 10         | 02         | 20          | 22  | 21 | X   | 9 |       |   |
| 155       | 50  | 00  | 145  | 00  | 12   | 06  | 67 | 18  | 00  | 4221            | 09         | 02         | 15          | 22  | 21 | X   | 9 |       |   |
| 156       | 50  | 00  | 145  | 01  | 12   | 06  | 67 | 21  | 00  | 4221            | 09         | 02         | 15          | 22  | 21 | X   | 9 |       |   |
| 157       | 50  | 03  | 144  | 58  | 13   | 06  | 67 | 00  | 00  | 4221            | 09         | 12         | 15          | 22  | 23 | X   | 8 |       |   |
| 158       | 50  | 08  | 144  | 54  | 13   | 06  | 67 | 03  | 00  | 4221            | 09         | 02         | 15          | 22  | 23 | X   | 9 |       |   |
| 159       | 50  | 02  | 145  | 00  | 13   | 06  | 67 | 06  | 00  | 4221            | 10         | 02         | 15          | 22  | 23 | 7   | 8 |       |   |
| 160       | 49  | 57  | 145  | 03  | 13   | 06  | 67 | 09  | 00  | 4221            | 10         | 02         | 15          | XX  | XX | X   | X |       |   |
| 161       | 50  | 01  | 144  | 59  | 13   | 06  | 67 | 12  | 00  | 4221            | 09         | 21         | 10          | XX  | XX | 5   | 9 |       |   |
| 162       | 50  | 04  | 145  | 00  | 13   | 06  | 67 | 15  | 00  | 4221            | 09         | 12         | 02          | XX  | XX | X   | 9 |       |   |
| 163       | 50  | 01  | 144  | 59  | 13   | 00  | 67 | 18  | 00  | 4221            | 09         | 02         | 15          | 21  | 23 | 7   | 8 |       |   |
| 164       | 49  | 50  | 144  | 57  | 13   | 06  | 67 | 21  | 00  | 4221            | 10         | 02         | 10          | 21  | 23 | 6   | 8 |       |   |
| 165       | 50  | 00  | 144  | 56  | 14   | 06  | 67 | 03  | 00  | 4221            | 11         | 12         | 08          | 21  | 23 | X   | 9 |       |   |
| 166       | 49  | 58  | 144  | 56  | 14   | 06  | 67 | 06  | 00  | 4221            | 14         | 02         | 10          | 21  | 23 | 6   | 8 |       |   |
| 167       | 49  | 57  | 144  | 53  | 14   | 06  | 67 | 09  | 00  | 4221            | 15         | 02         | 10          | 21  | 23 | 7   | 8 |       |   |
| 168       | 50  | 00  | 145  | 00  | 14   | 06  | 67 | 12  | 00  | 4221            | 16         | 02         | 15          | 21  | 23 | 7   | 7 |       |   |
| 169       | 50  | 00  | 145  | 00  | 14   | 06  | 67 | 15  | 00  | 4221            | 18         | 02         | 10          | 21  | 23 | 7   | 8 |       |   |
| 170       | 49  | 58  | 144  | 58  | 14   | 06  | 67 | 18  | 00  | 4221            | 19         | 02         | 10          | 21  | 23 | 7   | 8 |       |   |
| 171       | 49  | 56  | 144  | 57  | 14   | 06  | 67 | 21  | 00  | 4221            | 21         | 02         | 12          | 21  | 23 | 7   | 8 |       |   |
| 172       | 50  | 01  | 145  | 00  | 15   | 06  | 67 | 00  | 00  | 4221            | 22         | 02         | 12          | 21  | 23 | 7   | 8 |       |   |
| 173       | 50  | 00  | 145  | 00  | 15   | 06  | 67 | 03  | 00  | 4221            | 23         | 02         | 12          | 21  | 23 | 7   | 8 |       |   |
| 174       | 50  | 00  | 144  | 58  | 15   | 06  | 67 | 06  | 00  | 4221            | 24         | 02         | 04          | 21  | 23 | 7   | 8 |       |   |
| 175       | 49  | 58  | 145  | 00  | 15   | 06  | 67 | 09  | 00  | 4221            | 24         | 02         | 10          | XX  | XX | X   | X |       |   |



TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 176       | 50  | 01  | 145  | 02  | 15   | 06  | 67 | 12  | 00  | 4221            | 24         | 02         | 12          | XX  |   | XX  |   | X     | 8 |
| 177       | 50  | 02  | 145  | 03  | 15   | 06  | 67 | 15  | 00  | 4221            | 24         | 02         | 10          | 21  |   | 23  |   | 6     | 8 |
| 178       | 50  | 02  | 145  | 07  | 15   | 06  | 67 | 18  | 00  | 4221            | 24         | 02         | 20          | 22  |   | 23  |   | X     | 9 |
| 179       | 50  | 04  | 145  | 10  | 15   | 06  | 67 | 21  | 00  | 4221            | 22         | 02         | 20          | 21  |   | 23  |   | X     | 9 |
| 180       | 50  | 00  | 145  | 00  | 16   | 06  | 67 | 00  | 00  | 4221            | 22         | 12         | 20          | 23  |   | 23  |   | 7     | 9 |
| 181       | 50  | 03  | 145  | 03  | 16   | 06  | 67 | 03  | 00  | 4221            | 21         | 12         | 18          | 23  |   | 23  |   | 7     | 8 |
| 182       | 50  | 05  | 145  | 05  | 16   | 06  | 67 | 06  | 00  | 4221            | 19         | 11         | 20          | 13  |   | 13  |   | 7     | 8 |
| 183       | 50  | 04  | 145  | 07  | 16   | 06  | 67 | 09  | 00  | 4221            | 19         | 02         | 20          | XX  |   | XX  |   | 7     | 8 |
| 184       | 50  | 00  | 145  | 00  | 16   | 06  | 67 | 12  | 00  | 4221            | 18         | 02         | 25          | XX  |   | XX  |   | 7     | 8 |
| 185       | 50  | 05  | 145  | 07  | 16   | 06  | 67 | 15  | 00  | 4221            | 16         | 12         | 22          | 21  |   | 22  |   | X     | 9 |
| 186       | 50  | 02  | 145  | 02  | 16   | 06  | 67 | 18  | 00  | 4221            | 14         | 02         | 25          | 21  |   | 22  |   | X     | 9 |
| 187       | 50  | 02  | 145  | 03  | 16   | 06  | 67 | 21  | 00  | 4221            | 14         | 02         | 25          | 21  |   | 22  |   | X     | 9 |
| 188       | 50  | 03  | 145  | 04  | 17   | 06  | 67 | 00  | 00  | 4221            | 12         | 02         | 25          | 34  |   | 34  |   | 5     | 8 |
| 189       | 49  | 58  | 144  | 59  | 17   | 06  | 67 | 03  | 00  | 4221            | 10         | 02         | 25          | 34  |   | 34  |   | 5     | 8 |
| 190       | 50  | 04  | 145  | 02  | 17   | 06  | 67 | 06  | 00  | 4221            | 08         | 02         | 25          | 33  |   | 34  |   | X     | 9 |
| 191       | 50  | 03  | 145  | 06  | 17   | 06  | 67 | 09  | 00  | 4221            | 08         | 02         | 25          | 33  |   | 33  |   | X     | 9 |
| 192       | 50  | 00  | 145  | 00  | 17   | 06  | 67 | 12  | 00  | 4221            | 08         | 02         | 10          | XX  |   | XX  |   | X     | 9 |
| 193       | 50  | 06  | 145  | 00  | 17   | 06  | 67 | 15  | 00  | 4221            | 08         | 11         | 15          | 22  |   | 33  |   | X     | 9 |
| 194       | 49  | 59  | 145  | 01  | 17   | 06  | 67 | 18  | 00  | 4221            | 08         | 02         | 20          | 22  |   | 33  |   | X     | 9 |
| 195       | 49  | 58  | 145  | 01  | 17   | 06  | 67 | 21  | 00  | 4221            | 10         | 02         | 15          | 23  |   | 33  |   | 7     | 8 |
| 196       | 50  | 01  | 145  | 00  | 18   | 06  | 67 | 00  | 00  | 4221            | 11         | 01         | 20          | 23  |   | 33  |   | 5     | 6 |
| 197       | 50  | 03  | 144  | 53  | 18   | 06  | 67 | 03  | 00  | 4221            | 12         | 02         | 20          | 22  |   | 33  |   | 6     | 7 |
| 198       | 50  | 03  | 144  | 51  | 18   | 06  | 67 | 06  | 00  | 4221            | 14         | 02         | 20          | 22  |   | 33  |   | 6     | 8 |
| 199       | 50  | 02  | 144  | 48  | 18   | 06  | 67 | 09  | 00  | 4221            | 15         | 02         | 15          | XX  |   | XX  |   | 6     | 8 |
| 200       | 50  | 01  | 144  | 57  | 18   | 06  | 67 | 12  | 00  | 4221            | 16         | 02         | 20          | XX  |   | XX  |   | 5     | 6 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | Gmt |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 201       | 50  | 04  | 145  | 02  | 18   | 06  | 67 | 15  | 00  | 4221            | 18         | 02         | 16          | 21  | 33 | 6   | 8 |       |   |
| 202       | 50  | 03  | 145  | 00  | 18   | 06  | 67 | 18  | 00  | 4221            | 19         | 02         | 15          | 21  | 33 | 6   | 8 |       |   |
| 203       | 50  | 05  | 144  | 57  | 18   | 06  | 67 | 21  | 00  | 4221            | 21         | 02         | 15          | 23  | 31 | 6   | 8 |       |   |
| 204       | 50  | 01  | 145  | 00  | 19   | 06  | 67 | 00  | 00  | 4221            | 23         | 02         | 15          | 23  | 32 | 6   | 8 |       |   |
| 205       | 50  | 02  | 144  | 58  | 19   | 06  | 67 | 03  | 00  | 4221            | 23         | 02         | 15          | 23  | 32 | 6   | 8 |       |   |
| 206       | 50  | 02  | 144  | 57  | 19   | 06  | 67 | 06  | 00  | 4221            | 24         | 02         | 15          | 23  | 32 | 6   | 8 |       |   |
| 207       | 50  | 02  | 144  | 52  | 19   | 06  | 67 | 09  | 00  | 4221            | 24         | 02         | 15          | XX  | XX | 6   | 8 |       |   |
| 208       | 50  | 00  | 145  | 00  | 19   | 06  | 67 | 12  | 00  | 4221            | 24         | 02         | 12          | XX  | XX | 6   | 8 |       |   |
| 209       | 50  | 01  | 144  | 55  | 19   | 06  | 67 | 15  | 00  | 4221            | 24         | 02         | 12          | 21  | 32 | 6   | 8 |       |   |
| 210       | 50  | 01  | 144  | 52  | 19   | 06  | 67 | 18  | 00  | 4221            | 25         | 02         | 10          | 21  | 32 | 6   | 8 |       |   |
| 211       | 50  | 01  | 144  | 51  | 19   | 06  | 67 | 21  | 00  | 4221            | 25         | 02         | 10          | 22  | 20 | 6   | 8 |       |   |
| 212       | 50  | 00  | 144  | 56  | 20   | 06  | 67 | 00  | 00  | 4221            | 25         | 02         | 10          | XX  | 21 | 6   | 8 |       |   |
| 213       | 50  | 02  | 144  | 58  | 20   | 06  | 67 | 03  | 00  | 4221            | 25         | 02         | 05          | XX  | 21 | 6   | 8 |       |   |
| 214       | 50  | 00  | 144  | 57  | 20   | 06  | 67 | 06  | 00  | 4221            | 24         | 02         | 05          | XX  | 21 | 6   | 8 |       |   |
| 215       | 50  | 03  | 144  | 55  | 20   | 06  | 67 | 09  | 00  | 4221            | 24         | 02         | 05          | XX  | XX | 6   | 8 |       |   |
| 216       | 50  | 00  | 145  | 01  | 20   | 06  | 67 | 12  | 00  | 4221            | 24         | 02         | 08          | XX  | XX | 6   | 8 |       |   |
| 217       | 50  | 02  | 145  | 02  | 20   | 06  | 67 | 15  | 00  | 4221            | 24         | 02         | 08          | 21  | 23 | 6   | 9 |       |   |
| 218       | 50  | 04  | 145  | 02  | 20   | 06  | 67 | 18  | 00  | 4221            | 24         | 02         | 15          | 21  | 23 | 6   | 8 |       |   |
| 219       | 50  | 07  | 145  | 01  | 20   | 06  | 67 | 21  | 00  | 4221            | 24         | 02         | 15          | 21  | 22 | 6   | 8 |       |   |
| 220       | 50  | 10  | 145  | 00  | 21   | 06  | 67 | 00  | 00  | 4221            | 24         | 02         | 25          | 12  | 12 | 6   | 8 |       |   |
| 221       | 50  | 00  | 145  | 00  | 21   | 06  | 67 | 03  | 00  | 4221            | 24         | 02         | 20          | 21  | 22 | 6   | 8 |       |   |
| 222       | 50  | 03  | 145  | 00  | 21   | 06  | 67 | 06  | 00  | 4221            | 24         | 02         | 20          | 21  | 22 | 3   | 6 |       |   |
| 223       | 50  | 06  | 145  | 00  | 21   | 06  | 67 | 09  | 00  | 4221            | 24         | 02         | 20          | 22  | 22 | 8   | 5 |       |   |
| 224       | 50  | 00  | 145  | 00  | 21   | 06  | 67 | 12  | 00  | 4221            | 24         | 01         | 20          | 22  | 22 | 6   | 5 |       |   |
| 225       | 50  | 03  | 145  | 04  | 21   | 06  | 67 | 15  | 00  | 4221            | 25         | 01         | 20          | 22  | 22 | 6   | 6 |       |   |

TABLE 2

| CON<br>No | LAT |     | LONG |     | TIME |    |    | ALT |     | DEPTH<br>Meters | SAR<br>Miles | WW<br>Code | WIND<br>knt | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|----|----|-----|-----|-----------------|--------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mo | Yr | Hei | Alt |                 |              |            |             | P   | H | P   | H | T     | A |
| 226       | 49  | 58  | 145  | 03  | 21   | 06 | 67 | 16  | 00  | 4221            | 26           | 01         | 15          | 22  |   | 21  |   | 6     | 6 |
| 227       | 50  | 00  | 145  | 03  | 21   | 06 | 67 | 21  | 00  | 4221            | 26           | 01         | 15          | 22  |   | 21  |   | 6     | 7 |
| 228       | 49  | 59  | 145  | 00  | 22   | 06 | 67 | 00  | 00  | 4221            | 25           | 03         | 25          | 22  |   | 34  |   | 5     | 7 |
| 229       | 50  | 03  | 145  | 05  | 22   | 06 | 67 | 03  | 00  | 4221            | 24           | 02         | 25          | 33  |   | 34  |   | 6     | 8 |
| 230       | 50  | 02  | 145  | 00  | 22   | 06 | 67 | 06  | 00  | 4221            | 23           | 02         | 25          | 33  |   | 34  |   | 6     | 8 |
| 231       | 50  | 00  | 145  | 03  | 24   | 06 | 67 | 00  | 00  | 4221            | 14           | 02         | 12          | 11  |   | 24  |   | 6     | 8 |
| 232       | 50  | 00  | 145  | 00  | 24   | 06 | 67 | 03  | 00  | 4221            | 14           | 02         | XX          | XX  |   | 24  |   | 6     | 8 |
| 233       | 49  | 57  | 144  | 56  | 24   | 06 | 67 | 06  | 00  | 4221            | 14           | 02         | 10          | XX  |   | XX  |   | 6     | 8 |
| 234       | 49  | 56  | 144  | 55  | 24   | 06 | 67 | 09  | 00  | 4221            | 15           | 12         | 10          | XX  |   | XX  |   | 6     | 8 |
| 235       | 49  | 57  | 144  | 55  | 24   | 06 | 67 | 12  | 00  | 4221            | 15           | 44         | 12          | XX  |   | XX  |   | 5     | 7 |
| 236       | 50  | 03  | 144  | 54  | 24   | 06 | 67 | 15  | 00  | 4221            | 15           | 45         | 06          | XX  |   | 32  |   | X     | 9 |
| 237       | 50  | 01  | 144  | 52  | 24   | 06 | 67 | 18  | 00  | 4221            | 16           | 45         | 07          | XX  |   | 32  |   | X     | 9 |
| 238       | 50  | 00  | 144  | 52  | 24   | 06 | 67 | 21  | 00  | 4221            | 16           | 45         |             | XX  |   | XX  |   | X     | 9 |
| 239       | 50  | 00  | 145  | 00  | 25   | 06 | 67 | 00  | 00  | 4221            | 15           | 41         |             | XX  |   |     |   | X     | 9 |
| 240       | 50  | 04  | 145  | 04  | 25   | 06 | 67 | 03  | 00  | 4221            | 15           | 45         |             | XX  |   | 24  |   | X     | 9 |
| 241       | 50  | 05  | 145  | 04  | 25   | 06 | 67 | 06  | 00  | 4221            | 14           | 45         | 10          | XX  |   | 24  |   | X     | 9 |
| 242       | 50  | 06  | 145  | 06  | 25   | 06 | 67 | 09  | 00  | 4221            | 14           | 55         | 10          | XX  |   | XX  |   | X     | 9 |
| 243       | 50  | 00  | 145  | 00  | 25   | 06 | 67 | 12  | 00  | 4221            | 13           | 44         | 10          | XX  |   | XX  |   | 7     | 9 |
| 244       | 50  | 06  | 145  | 06  | 25   | 06 | 67 | 15  | 00  | 4221            | 13           | 44         | 10          | XX  |   | XX  |   | X     | 9 |
| 245       | 50  | 05  | 145  | 05  | 25   | 06 | 67 | 18  | 00  | 4221            | 12           | 45         | 12          | XX  |   | XX  |   | X     | 9 |
| 246       | 50  | 07  | 145  | 03  | 25   | 06 | 67 | 21  | 00  | 4221            | 12           | 45         | 12          | XX  |   | XX  |   | X     | 9 |
| 247       | 50  | 02  | 145  | 03  | 26   | 06 | 67 | 00  | 00  | 4221            | 12           | 42         | 15          | 21  |   | 33  |   | 5     | 6 |
| 248       | 49  | 59  | 144  | 57  | 26   | 06 | 67 | 03  | 00  | 4221            | 12           | 11         | 15          | 21  |   | 32  |   | 8     | 9 |
| 249       | 49  | 58  | 144  | 56  | 26   | 06 | 67 | 06  | 00  | 4221            | 12           | 02         | 10          | 21  |   | 32  |   | X     | 9 |
| 250       | 49  | 59  | 144  | 58  | 26   | 06 | 67 | 09  | 00  | 4221            | 14           | 02         | 10          | 21  |   | 22  |   | X     | 9 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH  | BAR | WW   | WIND | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|--------|-----|------|------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min | Metres | Mbs | Code | Ami  | P   | H  | P   | H | T     | A |
| 251       | 49  | 58  | 145  | 00  | 26   | 06  | 67 | 12  | 00  | 4221   | 13  | 02   | 12   | 21  | 22 | X   | 8 |       |   |
| 252       | 50  | 03  | 144  | 56  | 26   | 06  | 67 | 15  | 00  | 4221   | 11  | 02   | 10   | XX  | 22 | 6   | 7 |       |   |
| 253       | 50  | 04  | 144  | 57  | 26   | 06  | 67 | 18  | 00  | 4221   | 10  | 02   | 15   | XX  | 22 | X   | 9 |       |   |
| 254       | 50  | 04  | 144  | 58  | 26   | 06  | 67 | 21  | 00  | 4221   | 10  | 02   | 15   | XX  | 22 | X   | 9 |       |   |
| 255       | 50  | 03  | 145  | 02  | 27   | 06  | 67 | 00  | 00  | 4221   | 10  | 01   | 20   | 23  | 23 | 6   | 7 |       |   |
| 256       | 50  | 04  | 145  | 02  | 27   | 06  | 67 | 03  | 00  | 4221   | 10  | 02   | 20   | 23  | 23 | 7   | 7 |       |   |
| 257       | 50  | 03  | 144  | 55  | 27   | 06  | 67 | 06  | 00  | 4221   | 10  | 02   | 25   | 23  | 22 | 7   | 8 |       |   |
| 258       | 50  | 04  | 144  | 52  | 27   | 09  | 67 | 09  | 00  | 4221   | 11  | 02   | 25   | 23  | 23 | 7   | 8 |       |   |
| 259       | 50  | 03  | 144  | 54  | 27   | 06  | 67 | 12  | 00  | 4221   | 12  | 03   | 25   | 23  | XX | 5   | 7 |       |   |
| 260       | 50  | 03  | 144  | 52  | 27   | 06  | 67 | 15  | 00  | 4221   | 12  | 03   | 25   | 23  | XX | 5   | 7 |       |   |
| 261       | 50  | 03  | 145  | 01  | 27   | 06  | 67 | 18  | 00  | 4221   | 11  | 25   | 25   | 32  | 21 | 6   | 8 |       |   |
| 262       | 50  | 04  | 144  | 57  | 27   | 06  | 67 | 21  | 00  | 4221   | 10  | 25   | 25   | 32  | 21 | 6   | 8 |       |   |
| 263       | 49  | 58  | 145  | 07  | 29   | 06  | 67 | 06  | 00  | 4221   | 24  | 02   | 20   | 32  | 21 | 6   | 8 |       |   |
| 264       | 49  | 57  | 145  | 08  | 29   | 06  | 67 | 09  | 00  | 4221   | 25  | 04   | 20   | 22  | 21 | 6   | 8 |       |   |
| 265       | 49  | 57  | 145  | 06  | 29   | 06  | 67 | 12  | 00  | 4221   | 25  | 02   | 20   | 22  |    | 6   | 8 |       |   |
| 266       | 50  | 04  | 145  | 00  | 29   | 06  | 67 | 15  | 00  | 4221   | 26  | 02   | 18   | 22  | 22 | 2   | 2 |       |   |
| 267       | 50  | 02  | 144  | 58  | 29   | 06  | 67 | 18  | 00  | 4221   | 27  | 02   | 15   | 22  | 22 | 2   | 6 |       |   |
| 268       | 50  | 05  | 144  | 55  | 29   | 06  | 67 | 21  | 00  | 4221   | 27  | 02   | 10   | 22  | 22 | 2   | 6 |       |   |
| 269       | 50  | 03  | 144  | 57  | 30   | 06  | 67 | 00  | 00  | 4221   | 28  | 02   | 18   | 21  | 21 | 6   | 8 |       |   |
| 270       | 49  | 58  | 145  | 02  | 30   | 06  | 67 | 03  | 00  | 4221   | 28  | 02   | 15   | 21  | 21 | 6   | 7 |       |   |
| 271       | 49  | 58  | 145  | 02  | 30   | 06  | 67 | 06  | 00  | 4221   | 28  | 02   | 15   | 32  | 21 | 6   | 7 |       |   |
| 272       | 49  | 58  | 145  | 00  | 30   | 06  | 67 | 09  | 00  | 4221   | 28  | 02   | 15   | 32  | 21 | 6   | 7 |       |   |
| 273       | 50  | 02  | 144  | 59  | 30   | 06  | 67 | 12  | 00  | 4221   | 27  | 02   | 12   | 21  | XX | 6   | 7 |       |   |
| 274       | 50  | 06  | 144  | 57  | 30   | 06  | 67 | 15  | 00  | 4221   | 26  | 02   | 10   | 21  | 21 | 6   | 7 |       |   |
| 275       | 50  | 01  | 144  | 58  | 30   | 06  | 67 | 18  | 00  | 4221   | 24  | 21   | 15   | 21  | 21 | 6   | 7 |       |   |

TABLE 2

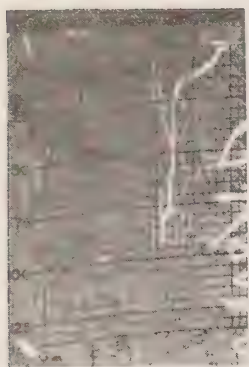
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|-----------|-----|-----|------|-----|------|-----|----|-----|-----|--------|-----|------|------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min | Metres | Mbs | Code | Amt  | P   | H  | P   | H | T     | A |
| 276       | 50  | 02  | 144  | 59  | 30   | 06  | 67 | 21  | 00  | 4221   | 23  | 21   | 20   | 21  | 21 | 6   | 1 |       |   |
| 277       | 50  | 06  | 144  | 59  | 01   | 07  | 67 | 03  | 00  | 4221   | 20  | 02   | 27   | 33  | 33 | 6   | 7 |       |   |
| 278       | 50  | 05  | 145  | 00  | 01   | 07  | 67 | 06  | 00  | 4221   | 22  | 02   | 10   | 33  | 22 | 6   | 7 |       |   |
| 279       | 50  | 02  | 145  | 02  | 01   | 07  | 67 | 09  | 00  | 4221   | 24  | 02   | 10   | 22  | 22 | 6   | 7 |       |   |
| 280       | 50  | 02  | 145  | 02  | 01   | 07  | 67 | 12  | 00  | 4221   | 25  | 02   | 10   | 22  | 22 | 6   | 7 |       |   |
| 281       | 50  | 02  | 145  | 02  | 01   | 07  | 67 | 15  | 00  | 4221   | 26  | 02   | 08   | XX  | 21 | 6   | 7 |       |   |
| 282       | 50  | 04  | 145  | 05  | 01   | 07  | 67 | 18  | 00  | 4221   | 26  | 02   | 05   | XX  | 21 | 6   | 8 |       |   |
| 283       | 50  | 04  | 145  | 06  | 01   | 07  | 67 | 21  | 00  | 4221   | 27  | 02   | 10   | XX  | 21 | 6   | 8 |       |   |
| 284       | 50  | 02  | 145  | 01  | 02   | 07  | 67 | 00  | 00  | 4221   | 27  | 02   | 15   | 21  | 33 | 6   | 8 |       |   |
| 285       | 50  | 01  | 145  | 00  | 02   | 07  | 67 | 03  | 00  | 4221   | 26  | 41   | 15   | 21  | 22 | 9   | 0 |       |   |
| 286       | 50  | 03  | 145  | 01  | 02   | 07  | 67 | 06  | 00  | 4221   | 25  | 65   | 18   | 21  | 22 | X   | 9 |       |   |
| 287       | 50  | 02  | 145  | 02  | 02   | 07  | 67 | 09  | 00  | 4221   | 25  | 02   | 15   | 21  | 22 | X   | 9 |       |   |
| 288       | 50  | 00  | 145  | 00  | 02   | 07  | 67 | 12  | 00  | 4221   | 24  | 02   | 12   | 21  | 22 |     | 9 |       |   |
| 289       | 50  | 02  | 145  | 04  | 02   | 07  | 67 | 15  | 00  | 4221   | 21  | 63   | 15   | 22  | 22 | X   | 9 |       |   |
| 290       | 50  | 05  | 145  | 07  | 02   | 07  | 67 | 18  | 00  | 4221   | 21  | 61   | 15   | 22  | 22 | X   | 9 |       |   |
| 291       | 50  | 06  | 145  | 10  | 02   | 07  | 67 | 21  | 00  | 4221   | 20  | 61   | 20   | 22  | 21 | X   | 9 |       |   |
| 292       | 50  | 03  | 145  | 04  | 03   | 07  | 67 | 00  | 00  | 4221   | 19  | 01   | 15   | 22  | 22 | 6   | 8 |       |   |
| 293       | 50  | 00  | 145  | 02  | 03   | 07  | 67 | 03  | 00  | 4221   | 19  | 02   | 15   | 21  | 21 | 6   | 8 |       |   |
| 294       | 50  | 02  | 145  | 01  | 03   | 07  | 67 | 06  | 00  | 4221   | 19  | 02   | 10   | 21  | 21 | 6   | 8 |       |   |
| 295       | 50  | 03  | 145  | 00  | 03   | 07  | 67 | 09  | 00  | 4221   | 18  | 02   |      | XX  | XX | X   | 9 |       |   |
| 296       | 50  | 01  | 144  | 59  | 03   | 07  | 67 | 12  | 00  | 4221   | 19  | 45   | 03   |     |    | X   | X |       |   |
| 297       | 50  | 00  | 145  | 04  | 03   | 07  | 67 | 15  | 00  | 4221   | 19  | 42   | 08   | XX  | 21 | 6   | 6 |       |   |
| 298       | 49  | 57  | 145  | 04  | 03   | 07  | 67 | 18  | 00  | 4221   | 19  | 42   | 25   | 22  | 22 | X   | 9 |       |   |
| 299       | 49  | 55  | 145  | 05  | 03   | 07  | 67 | 21  | 00  | 4221   | 21  | 02   | 25   | 22  | 32 | 6   | 8 |       |   |
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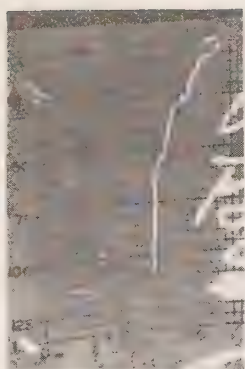
TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 301       | 50  | 01  | 145  | 02  | 04   | 07  | 67 | 03  | 00  | 4221            | 24         | 02         | 25          | 34  | 33 | 6   | 8 |       |   |
| 302       | 50  | 00  | 144  | 55  | 04   | 07  | 67 | 06  | 00  | 4221            | 25         | 02         | 15          | 23  | 22 | 6   | 8 |       |   |
| 303       | 50  | 01  | 144  | 56  | 04   | 07  | 67 | 09  | 00  | 4221            | 26         | 02         | 15          | 23  | 22 | X   | X |       |   |
| 304       | 50  | 00  | 145  | 00  | 04   | 07  | 67 | 12  | 00  | 4221            | 26         | 02         | 12          | XX  | XX | X   | X |       |   |
| 305       | 49  | 58  | 145  | 03  | 04   | 07  | 67 | 15  | 00  | 4221            | 27         | 02         | 10          | 21  | 22 | 7   | 8 |       |   |
| 306       | 49  | 58  | 145  | 01  | 04   | 07  | 67 | 18  | 00  | 4221            | 27         | 02         | 15          | 21  | 22 | 7   | 8 |       |   |
| 307       | 49  | 55  | 144  | 50  | 04   | 07  | 67 | 21  | 00  | 4221            | 27         | 02         | 15          | 21  | 22 | 7   | 8 |       |   |

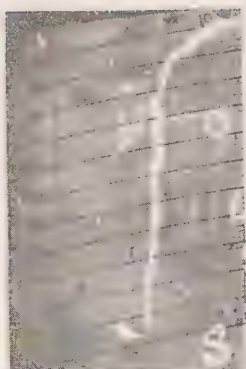




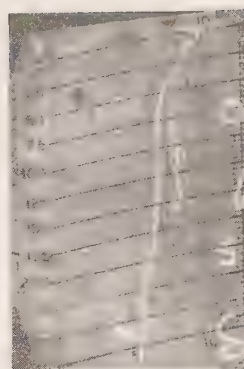
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2



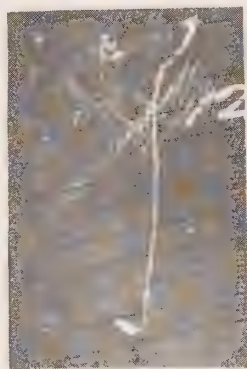
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4



5



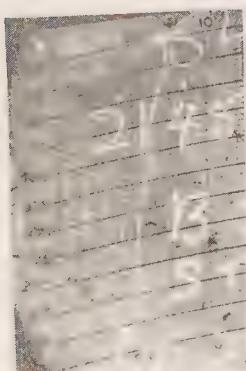
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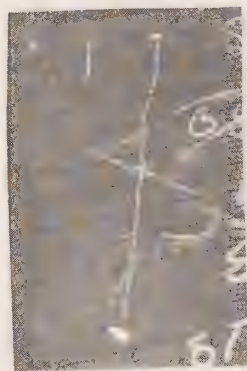
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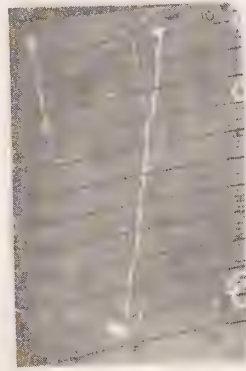
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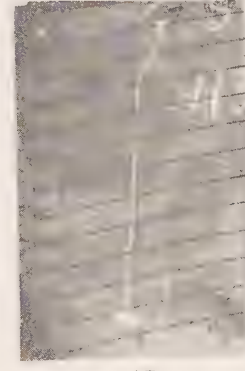
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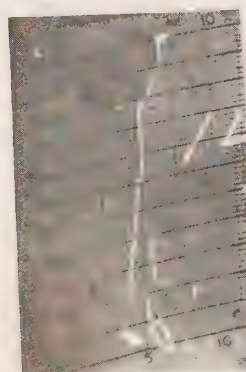
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12



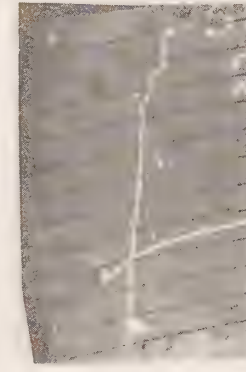
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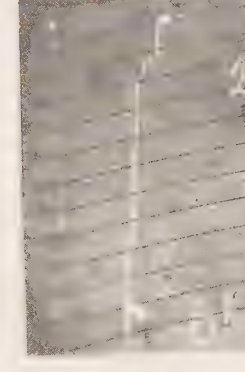
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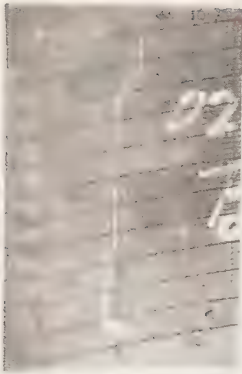
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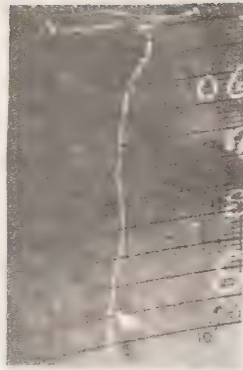
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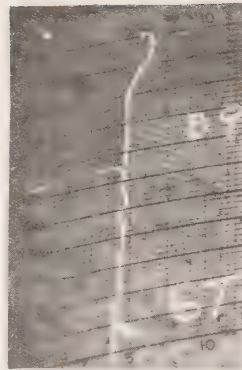
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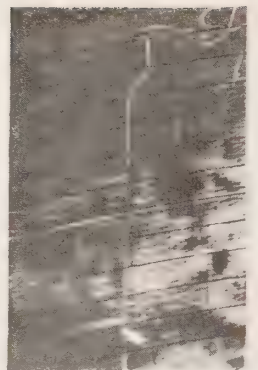
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19



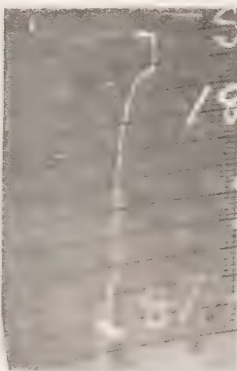
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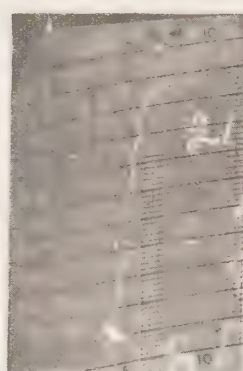
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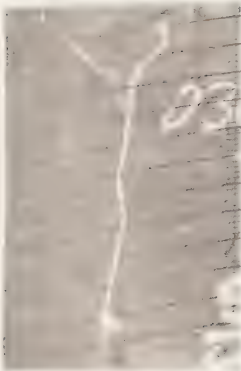
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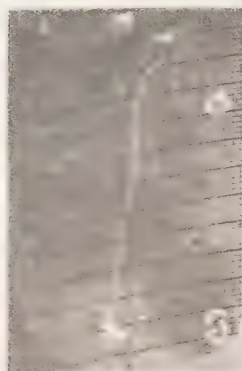
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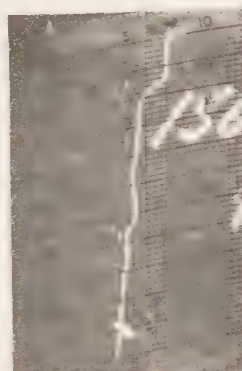
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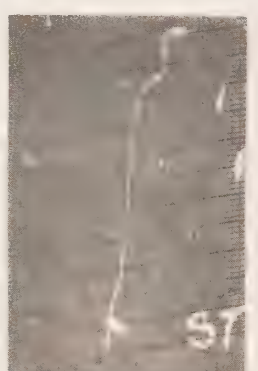
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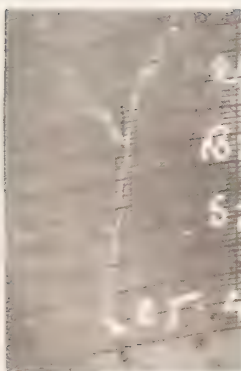
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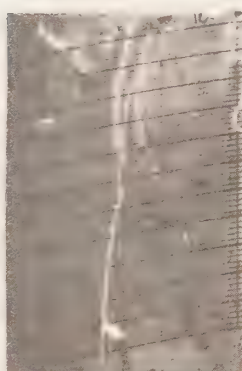
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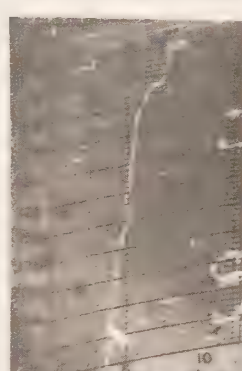
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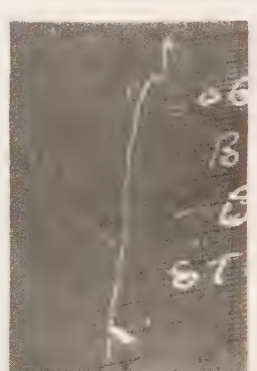
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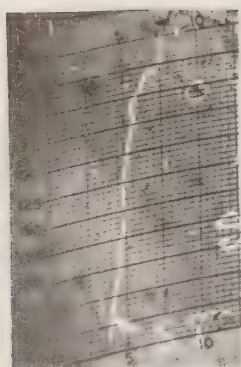


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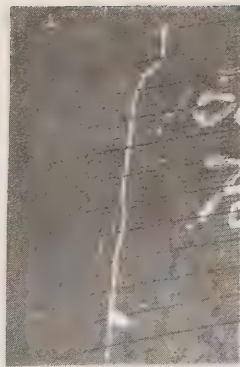




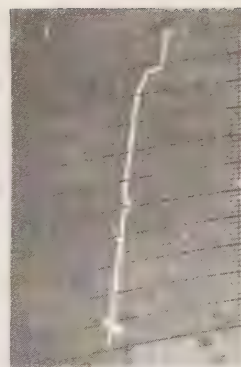
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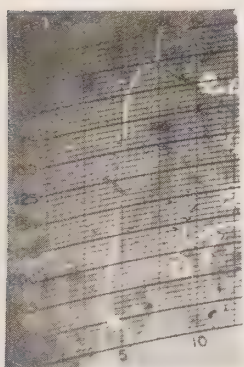
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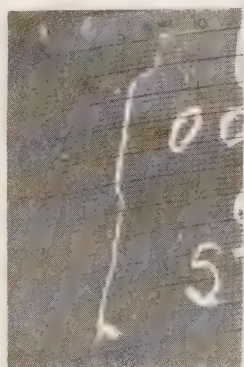
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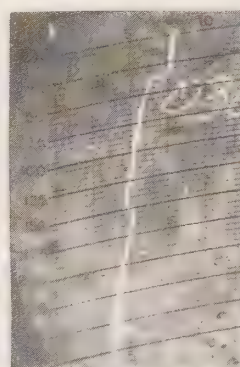
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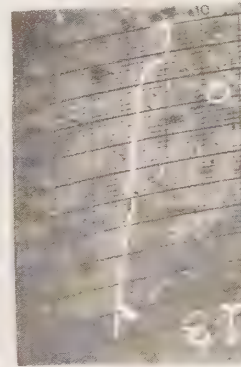
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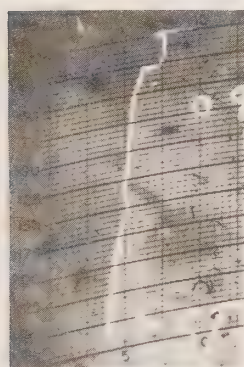
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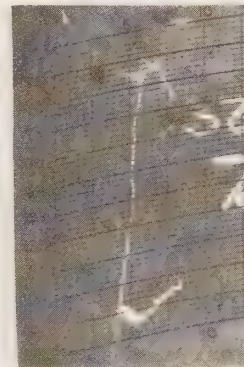
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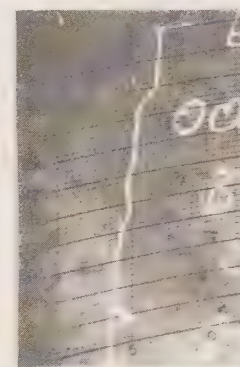
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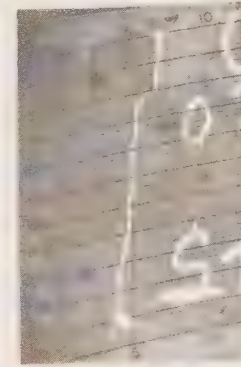
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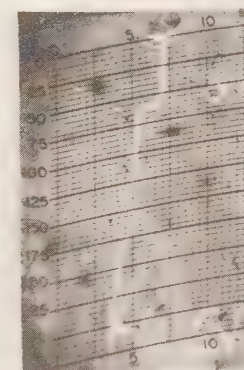
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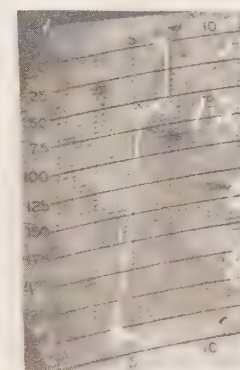
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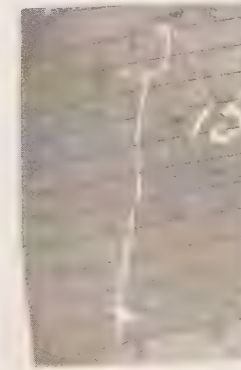
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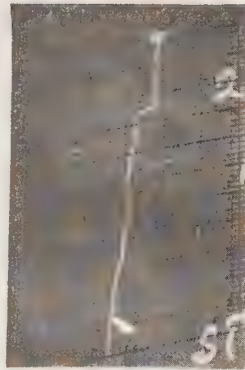


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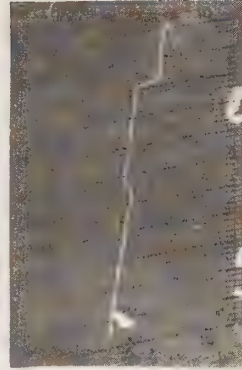




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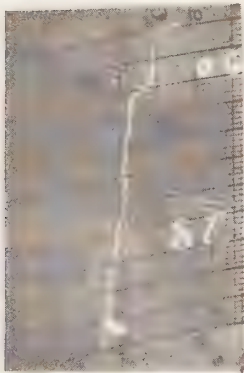
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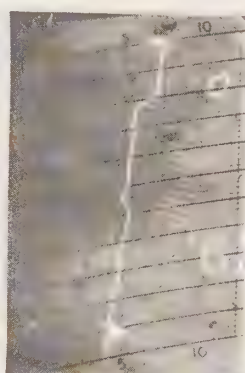
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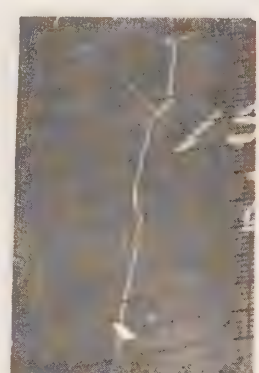
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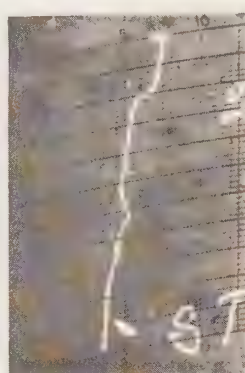
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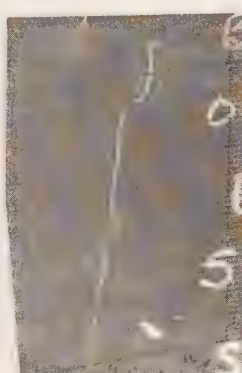
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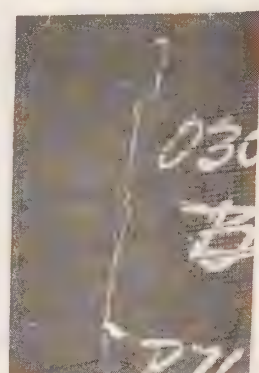
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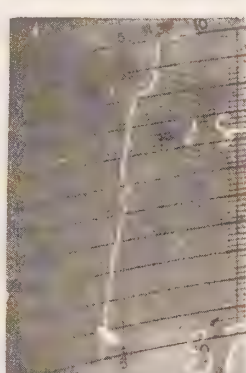
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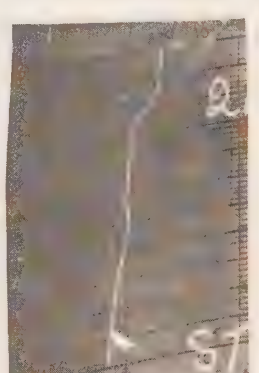
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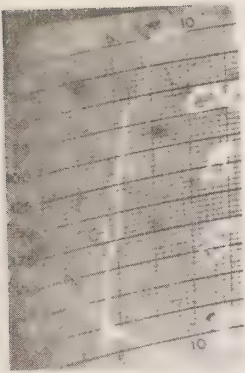
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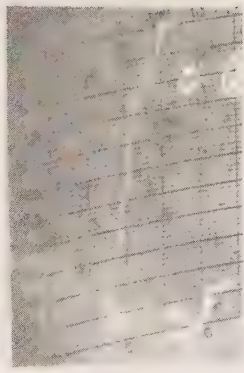
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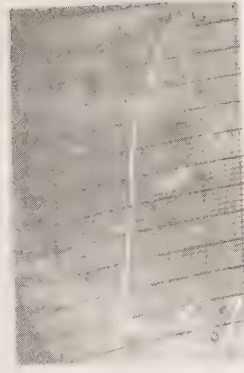
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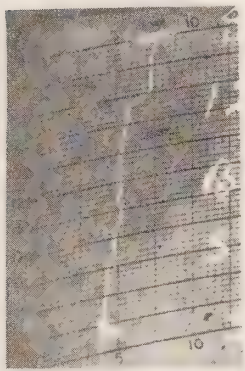
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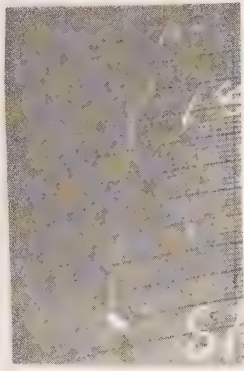
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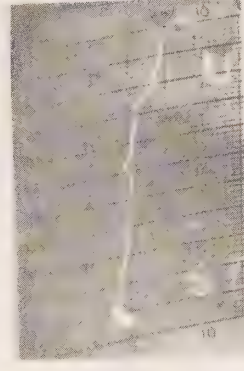
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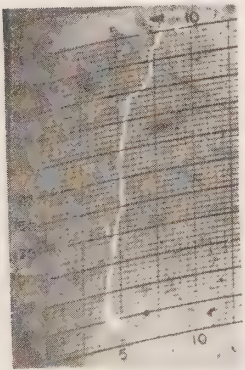
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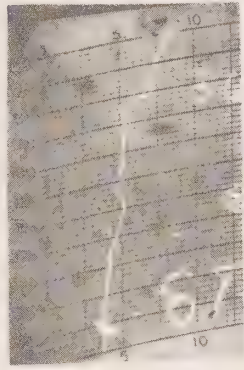
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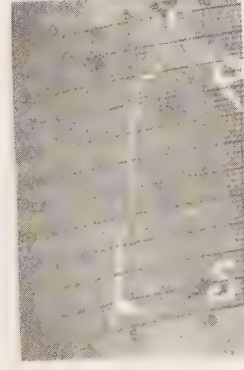
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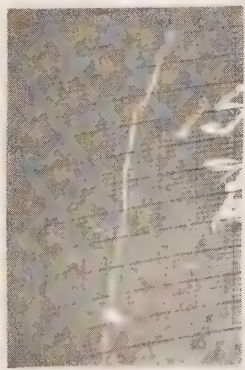
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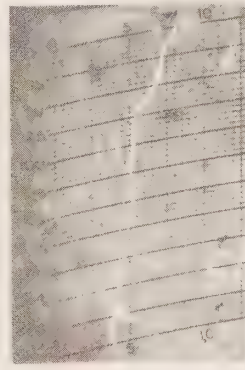
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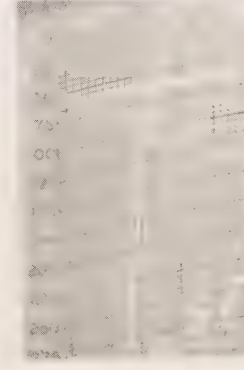
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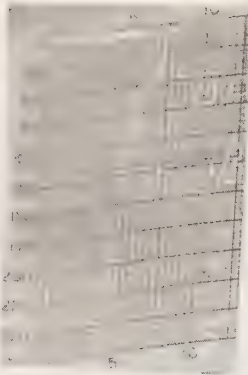


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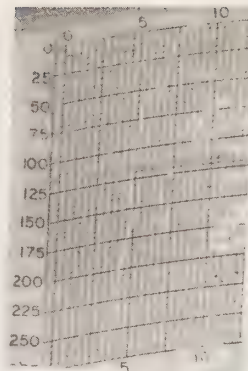


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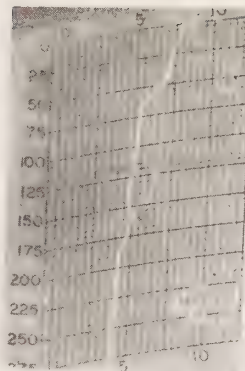




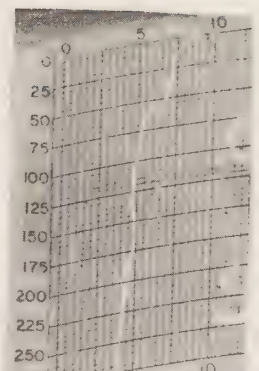
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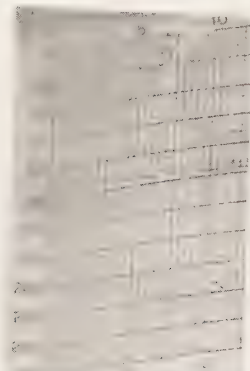
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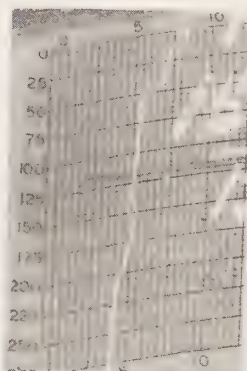
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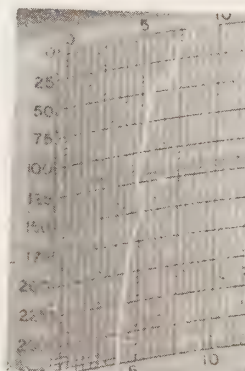
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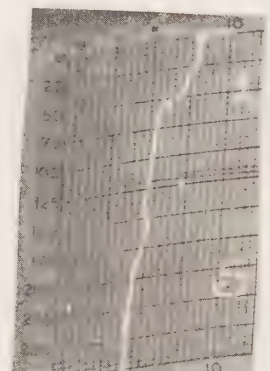
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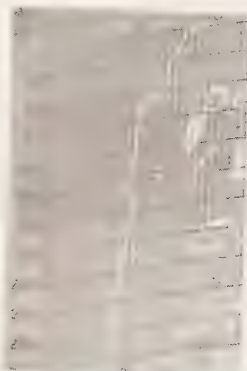
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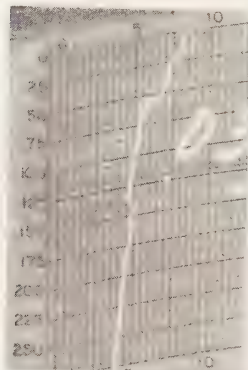
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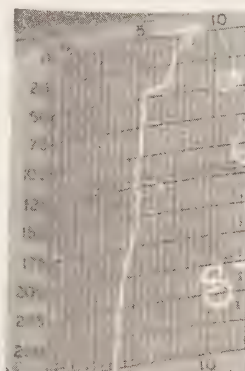
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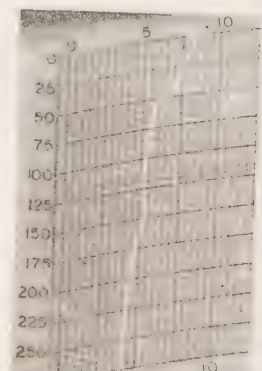
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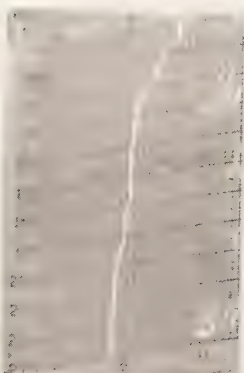
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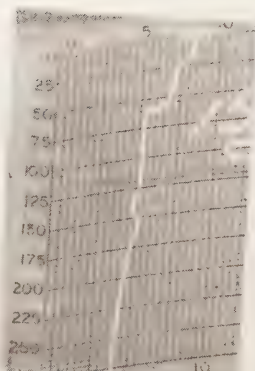
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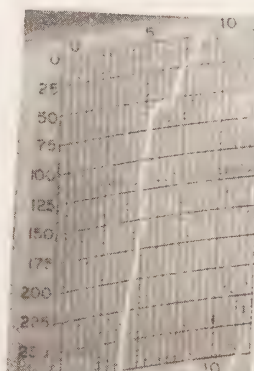
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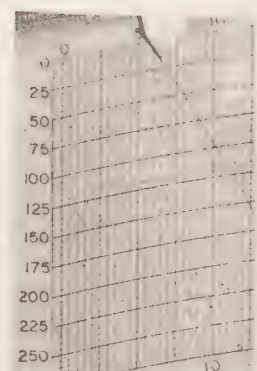
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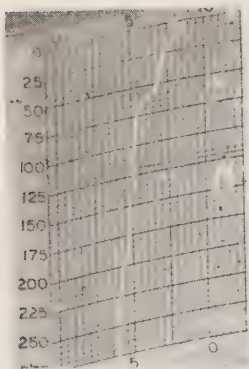
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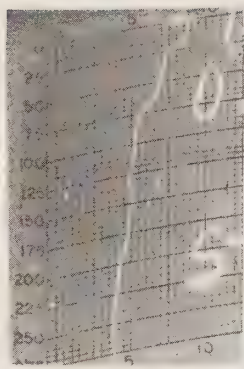
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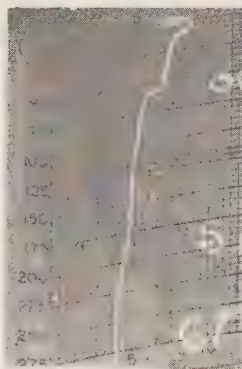
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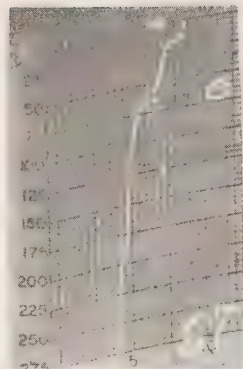
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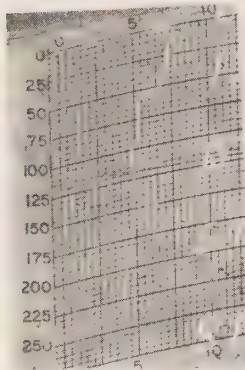
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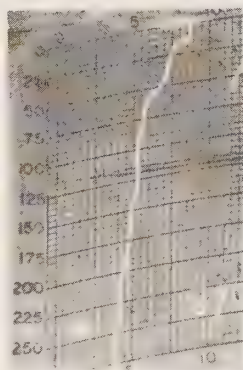
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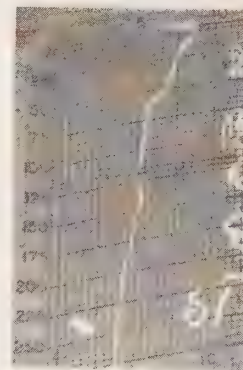
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103



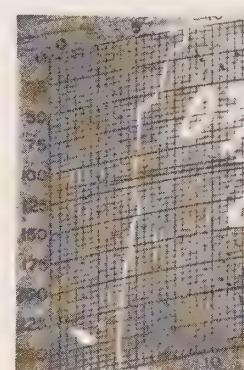
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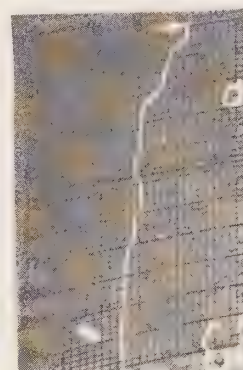
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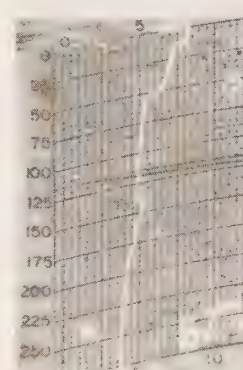
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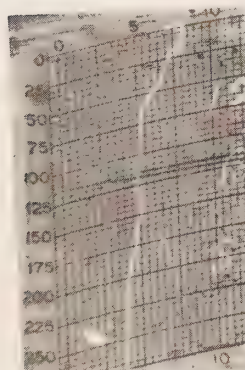
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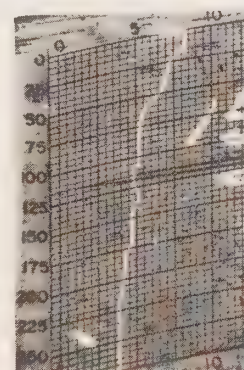
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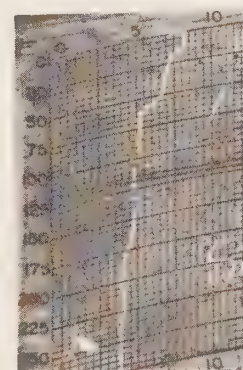
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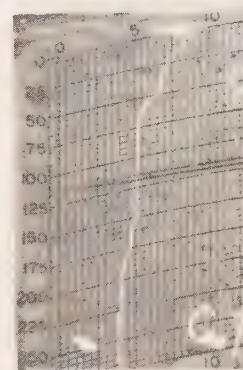
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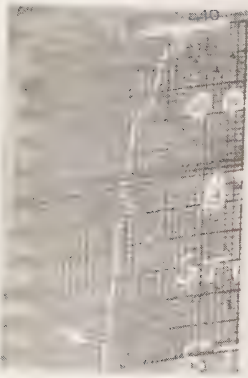


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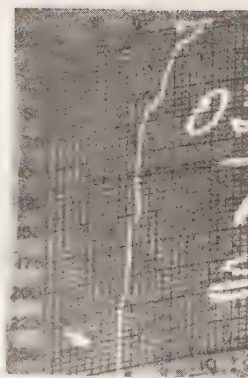


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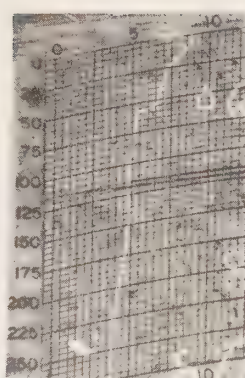




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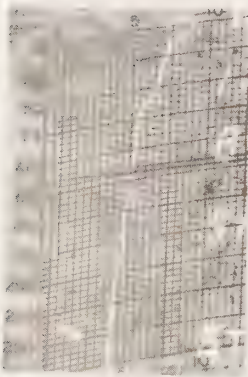
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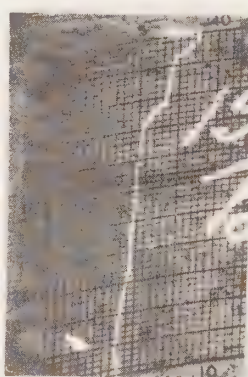
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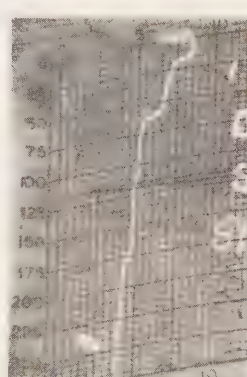
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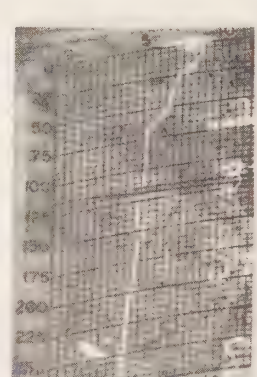
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119



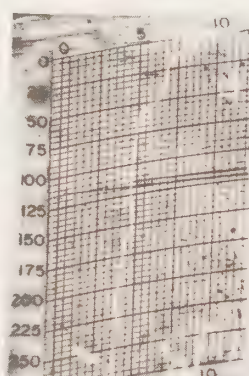
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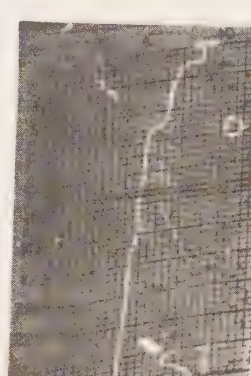
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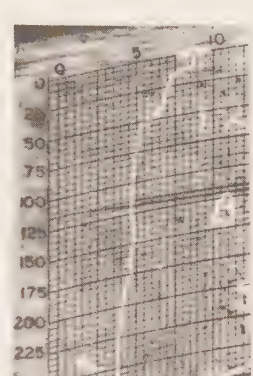
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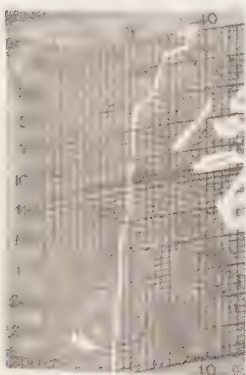
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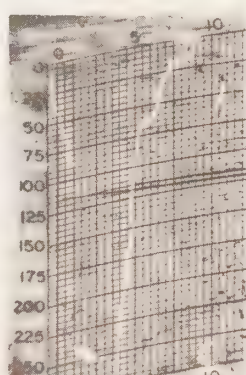
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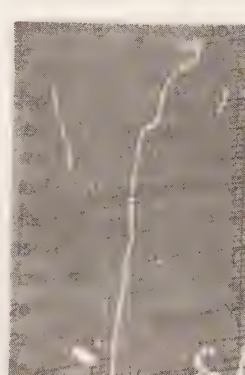
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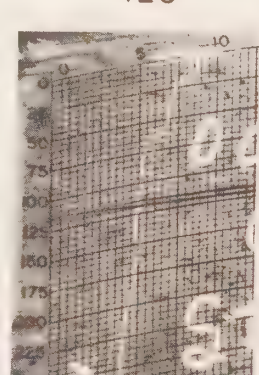
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127

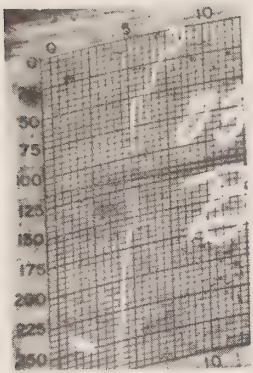


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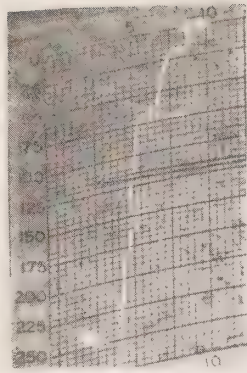


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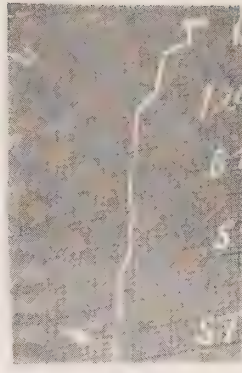




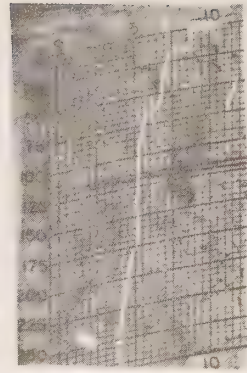
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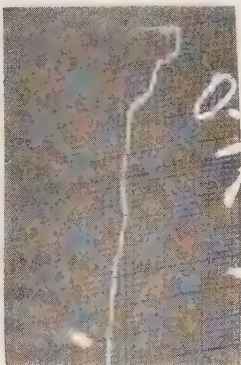
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132



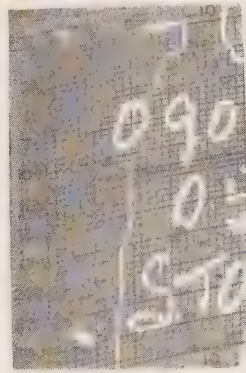
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135



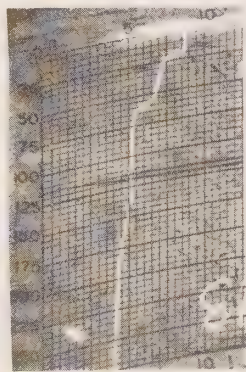
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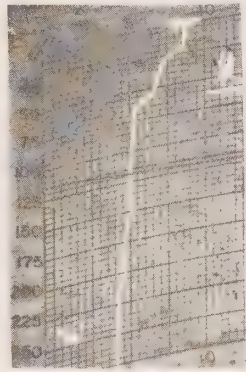
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138



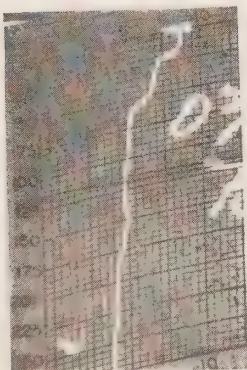
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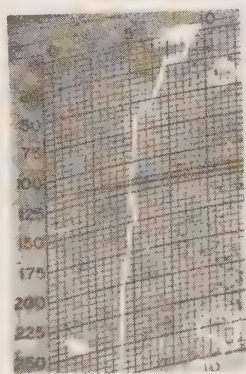
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144

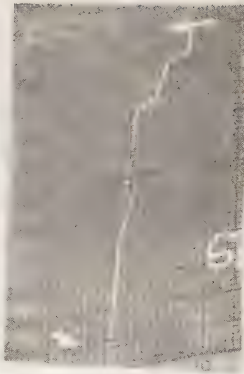


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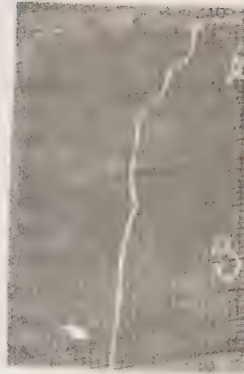




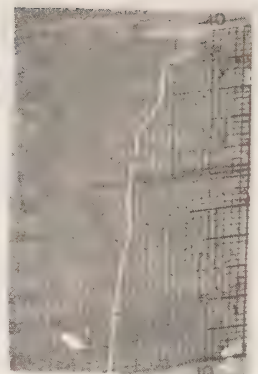
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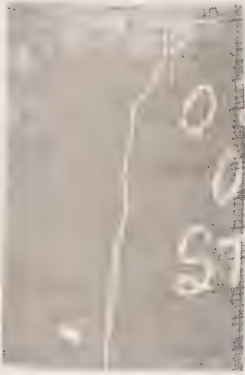
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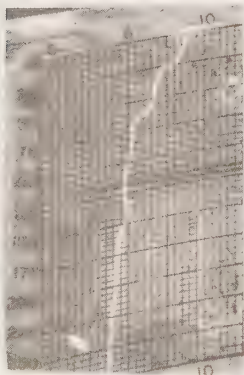
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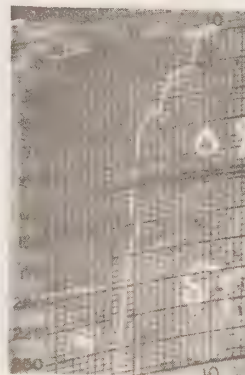
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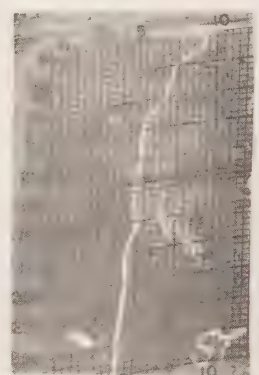
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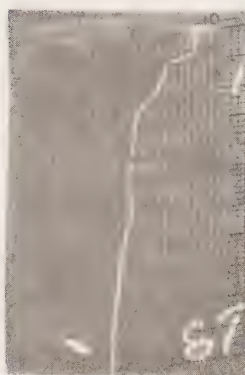
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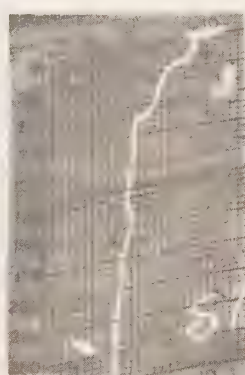
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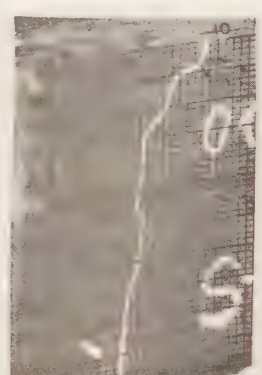
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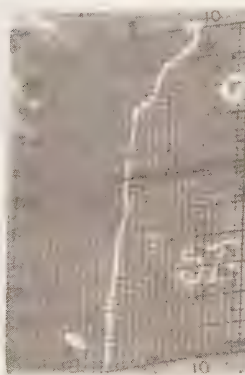
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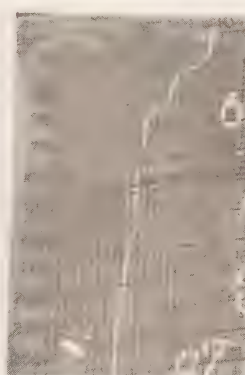
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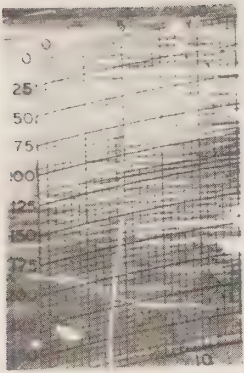


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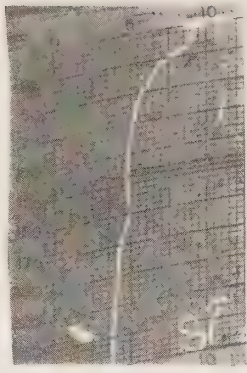


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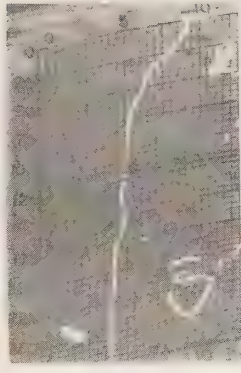




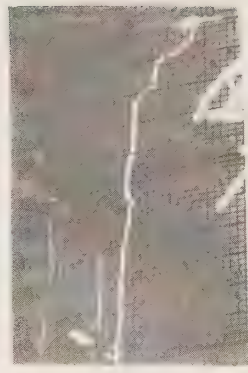
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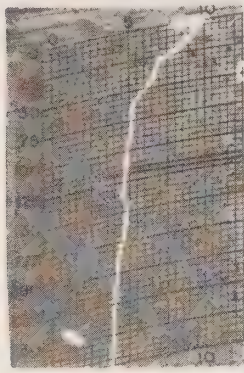
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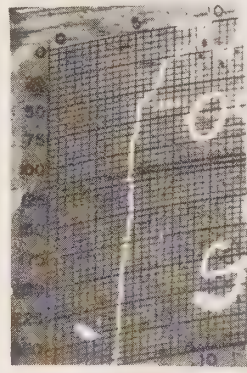
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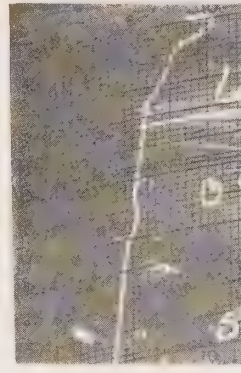
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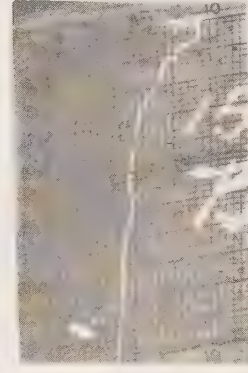
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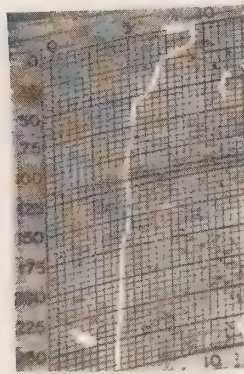
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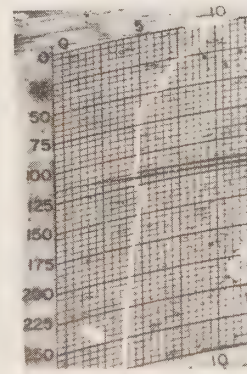
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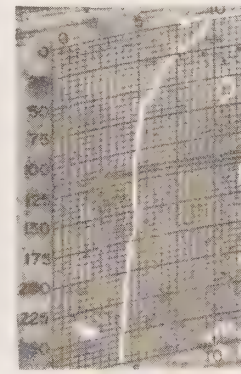
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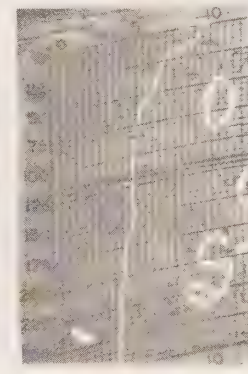
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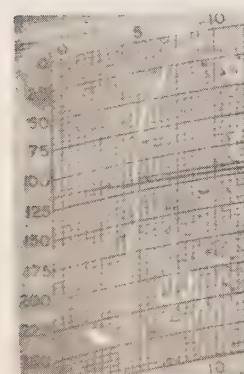
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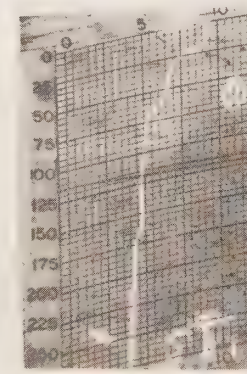
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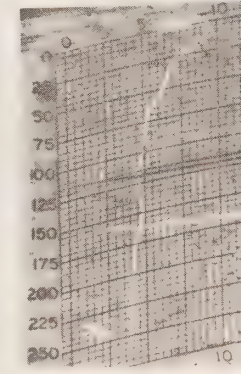
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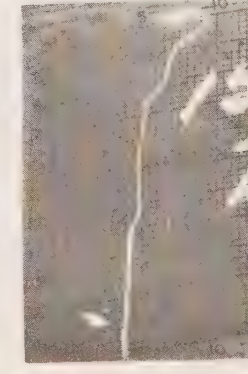
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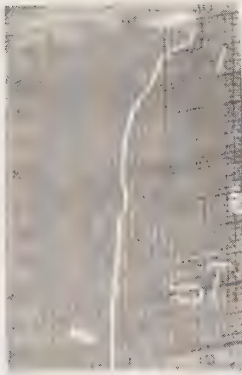


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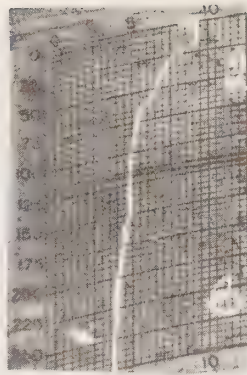


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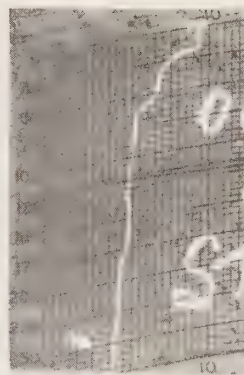




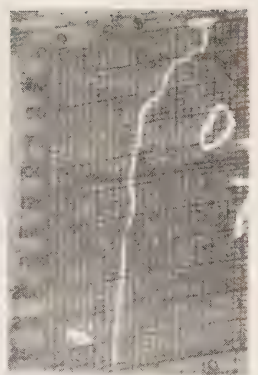
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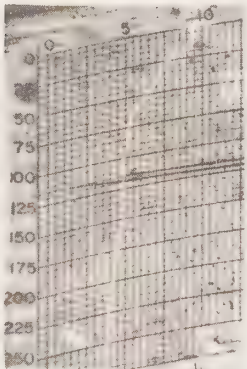
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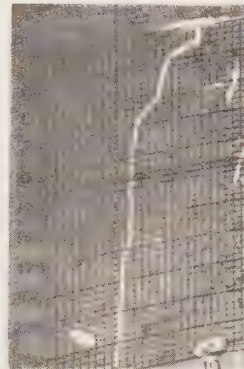
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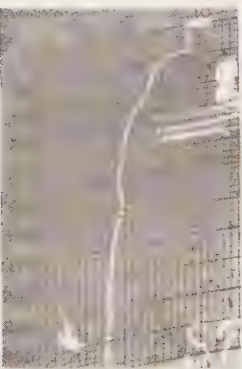
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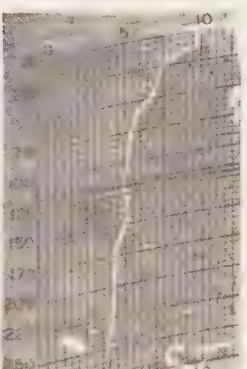
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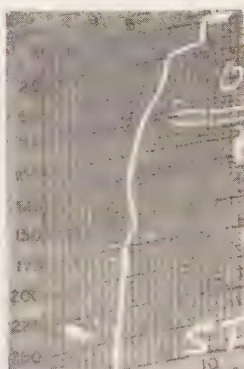
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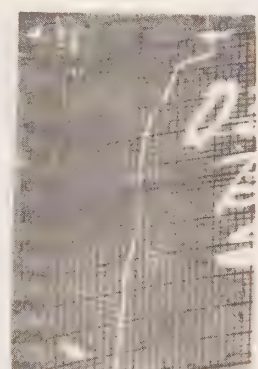
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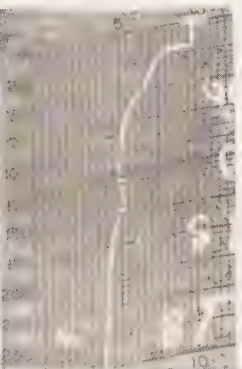
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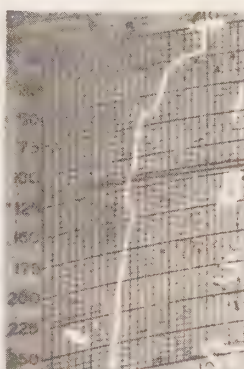
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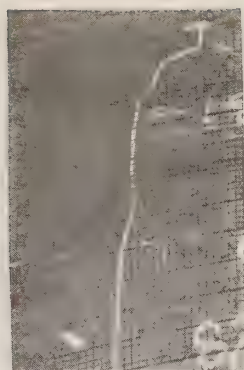
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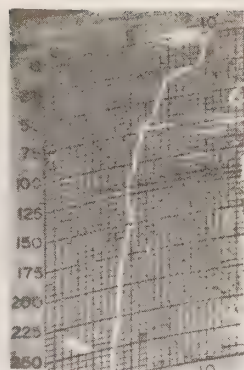
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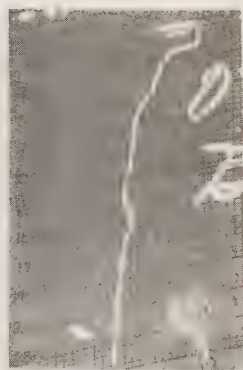
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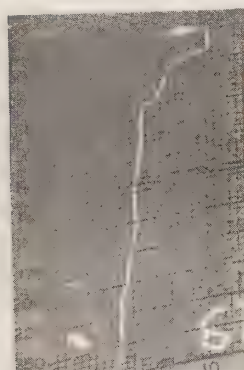
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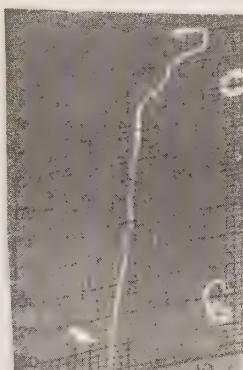
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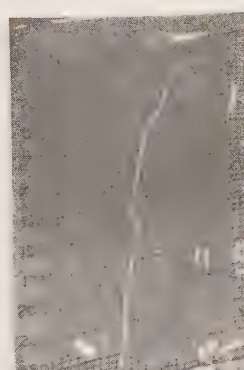
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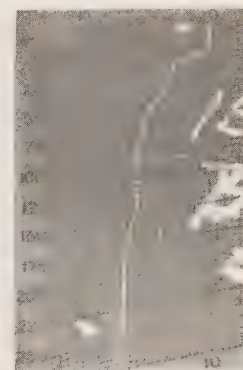
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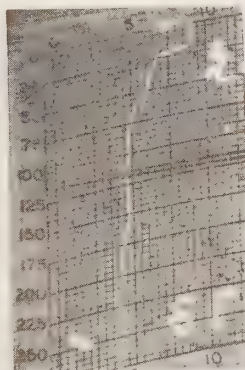
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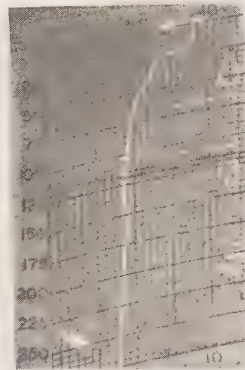
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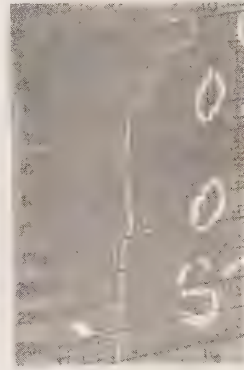
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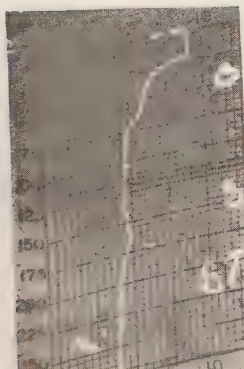
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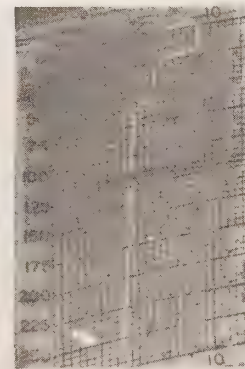
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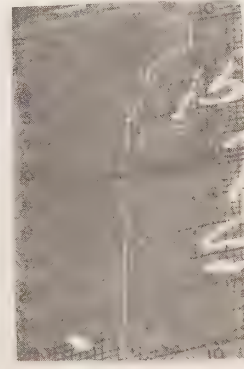
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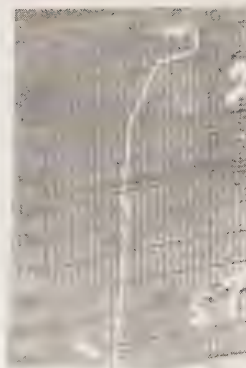


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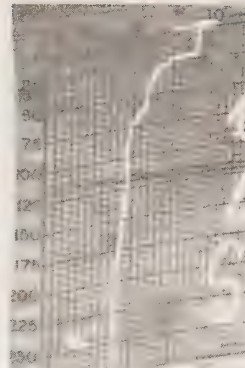




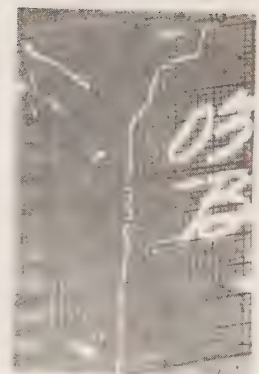
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212



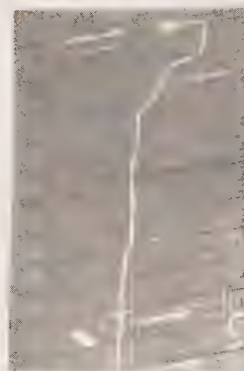
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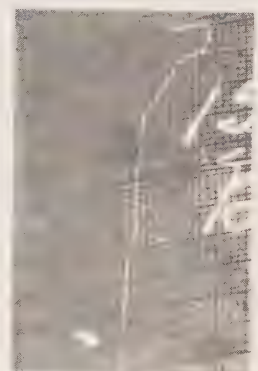
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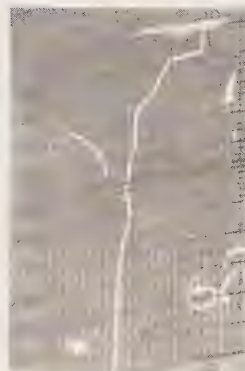
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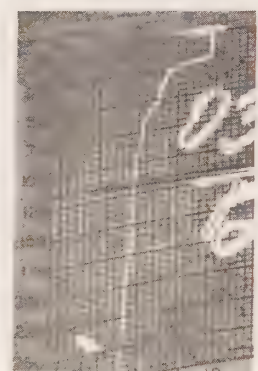
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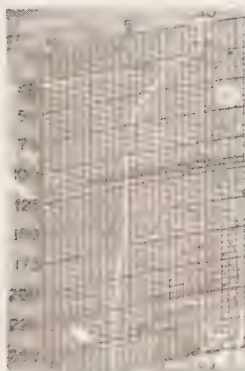
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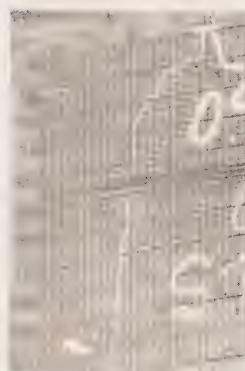
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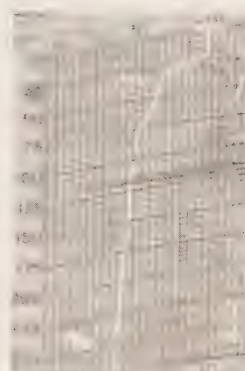
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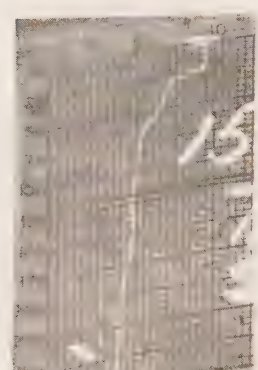
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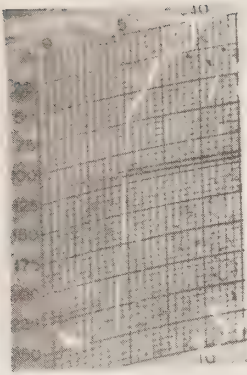


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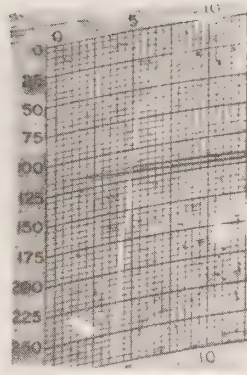


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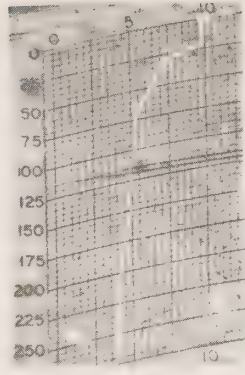




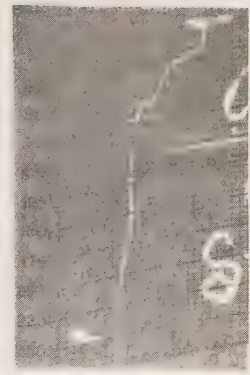
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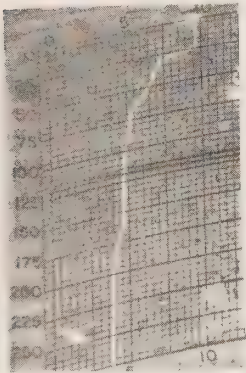
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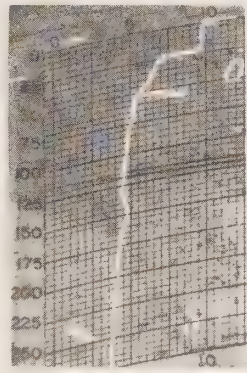
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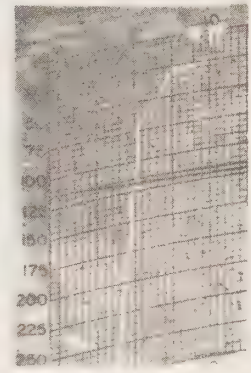
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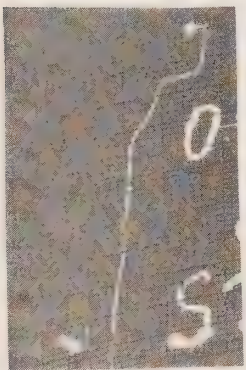
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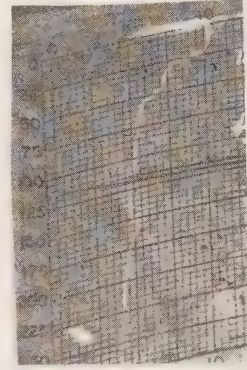
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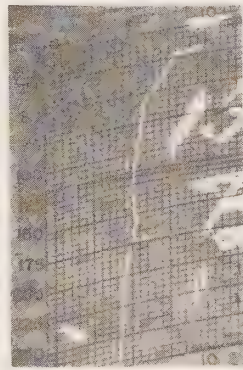
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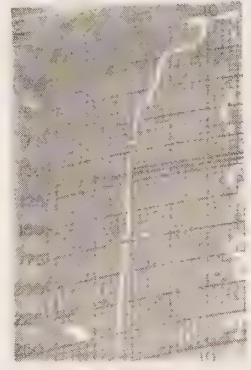
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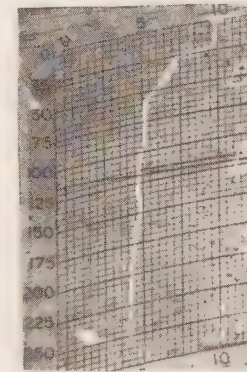
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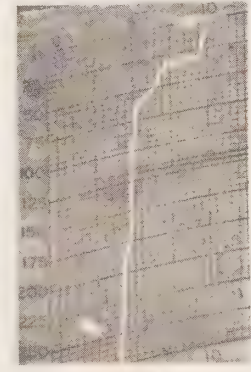
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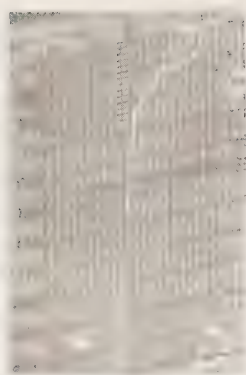


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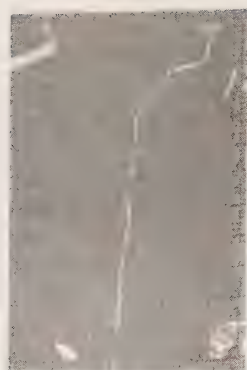


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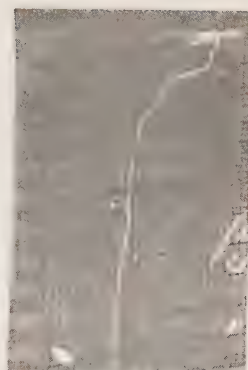




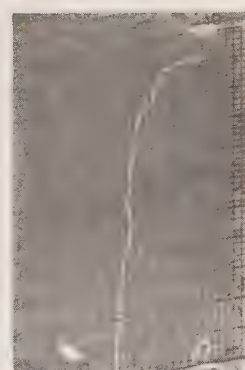
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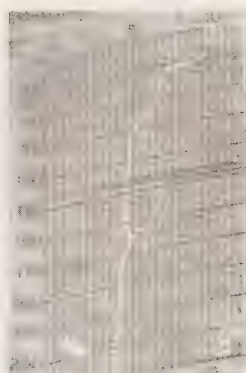
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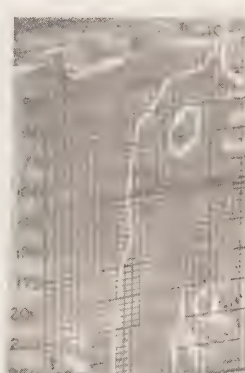
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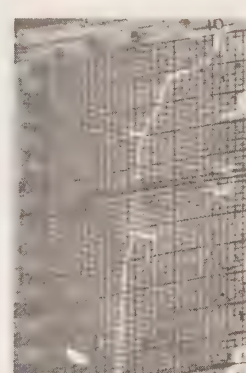
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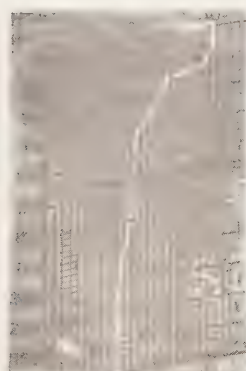
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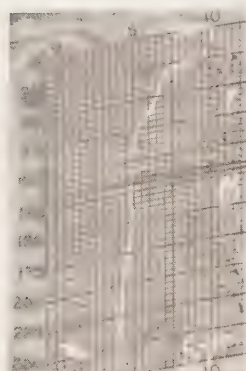
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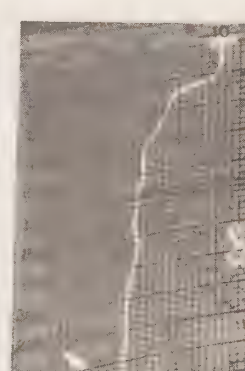
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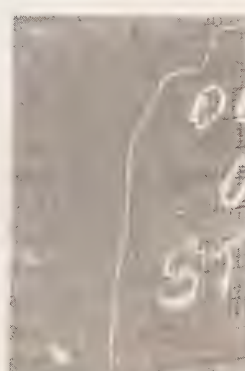
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253



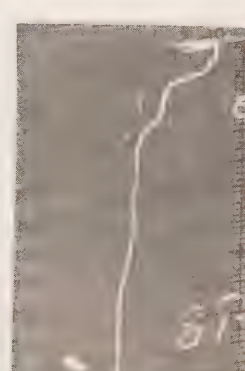
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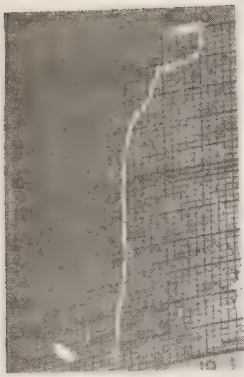


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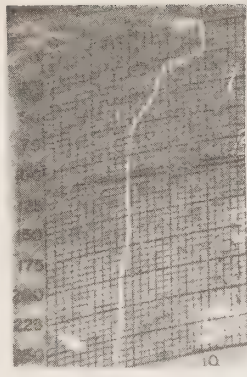


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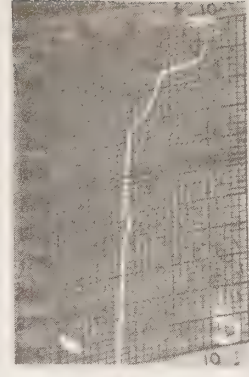
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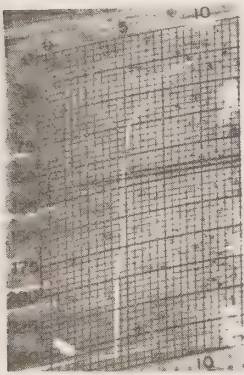
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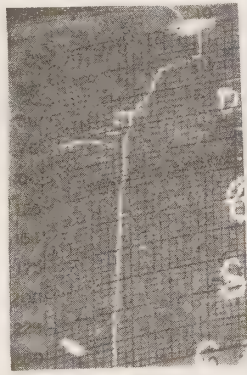
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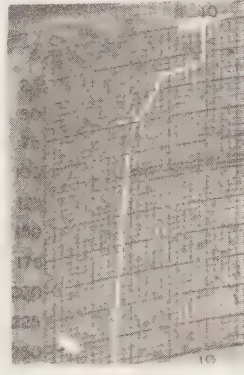
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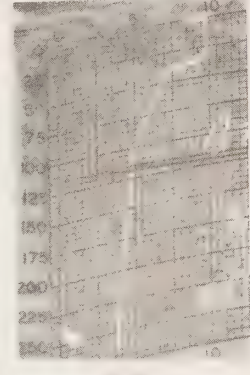
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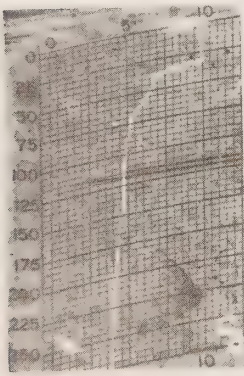
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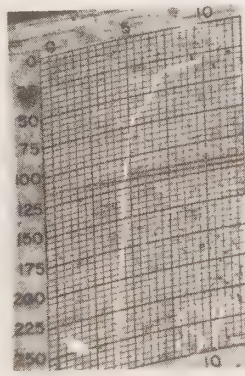
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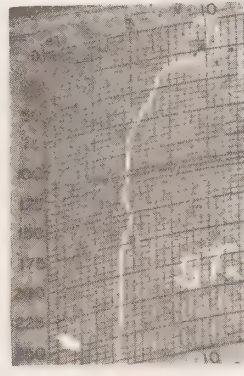
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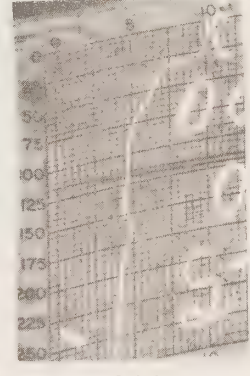
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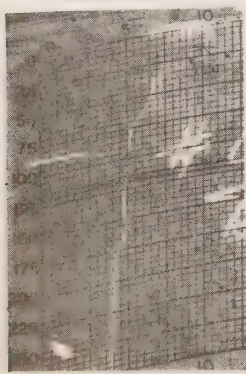
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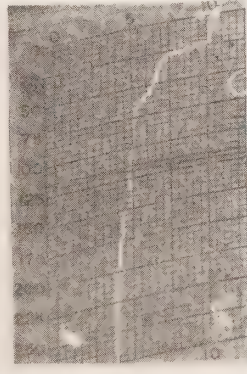
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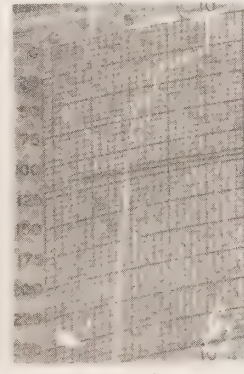
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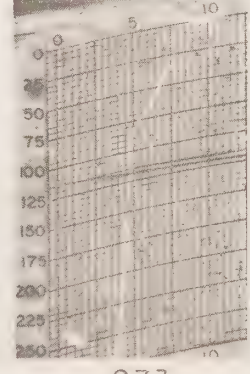
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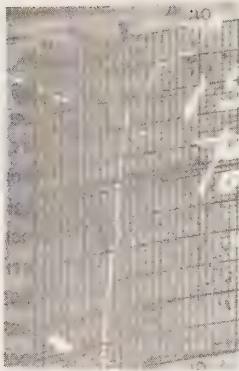


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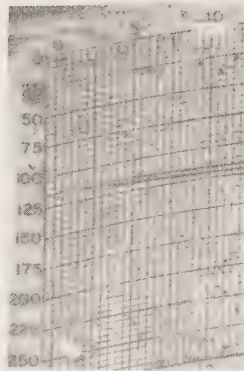


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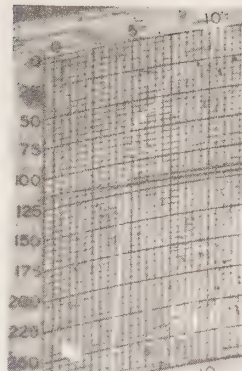




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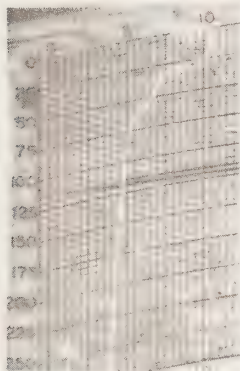
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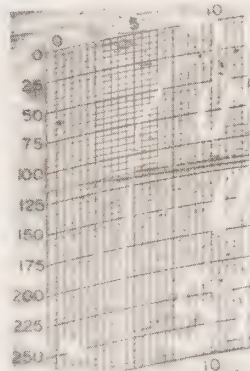
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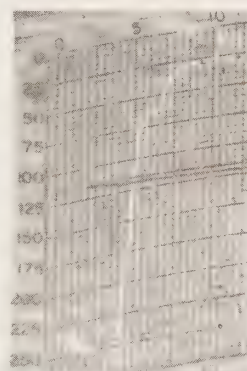
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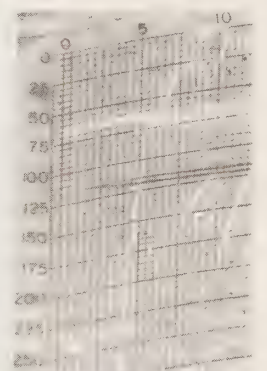
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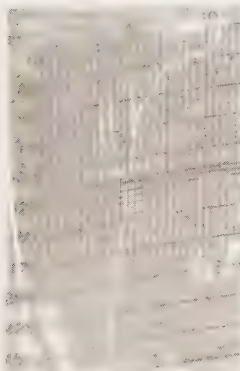
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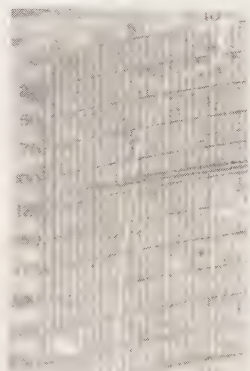
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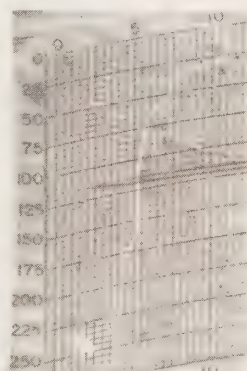
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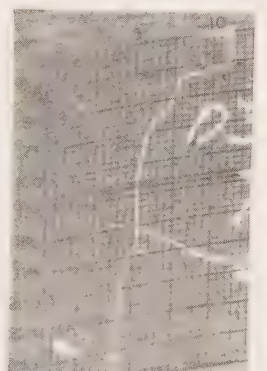
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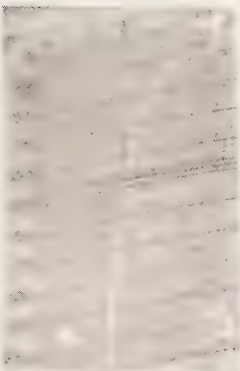
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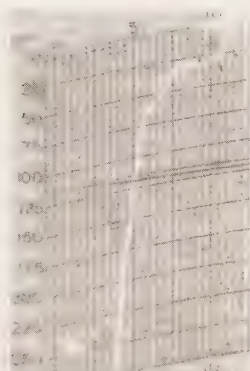
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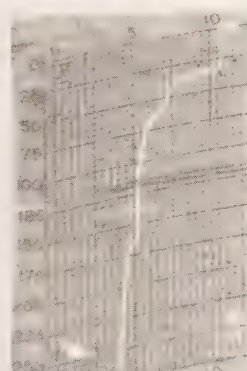
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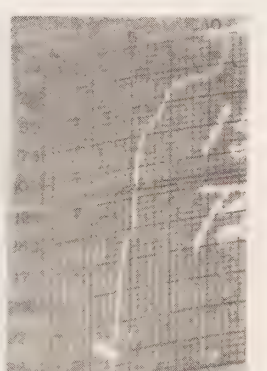
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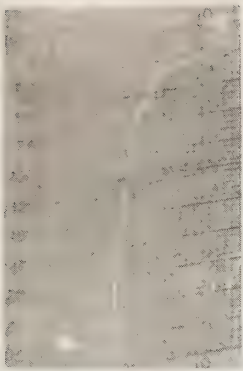


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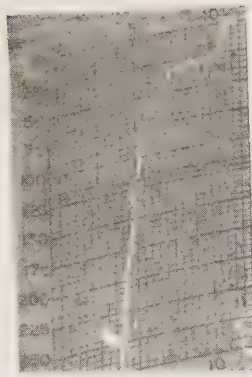


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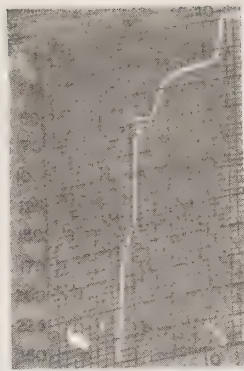




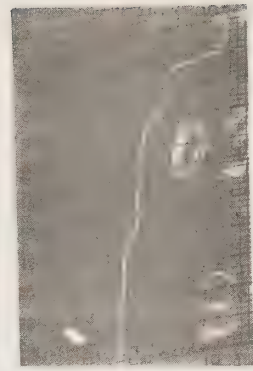
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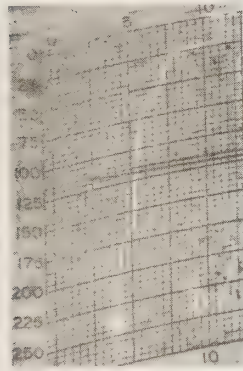
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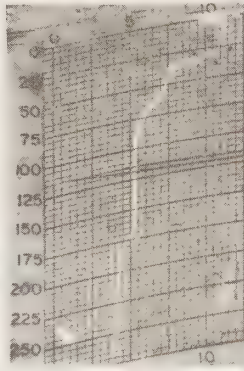
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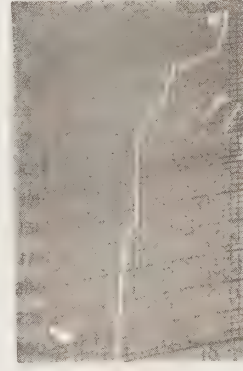
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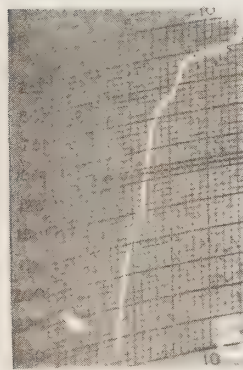
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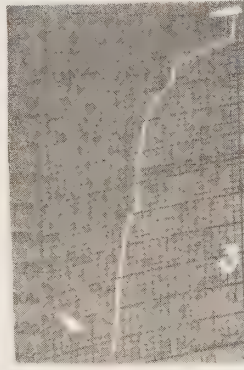
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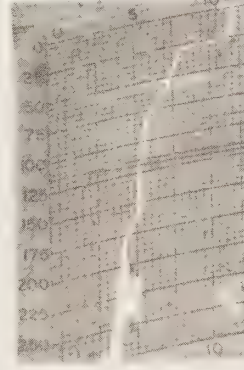
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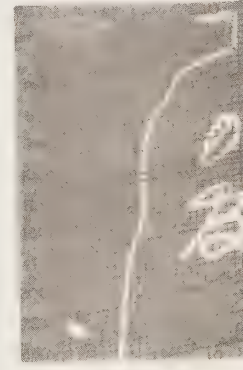
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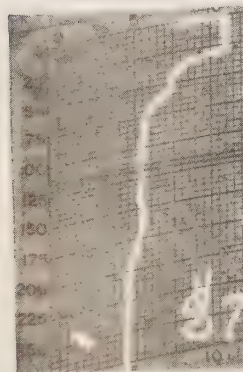
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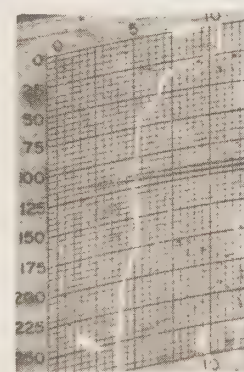
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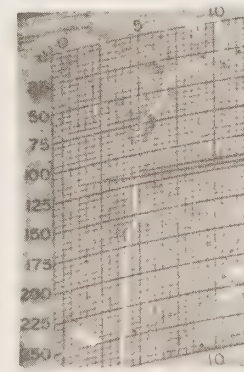
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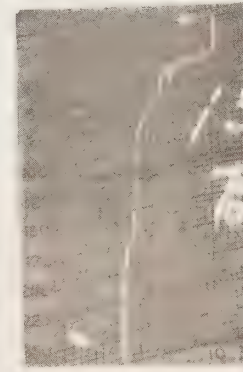
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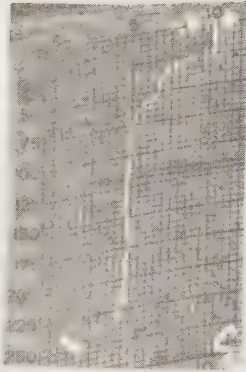
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## SECTION V

### Surface Salinity Data



## Surface Salinity Observations

| Date-Time                       | Position |           | Salinity |
|---------------------------------|----------|-----------|----------|
| G.M.T.                          | Latitude | Longitude | ‰        |
| CCGS "Vancouver", Survey P-67-2 |          |           |          |
| CODC Ref. No. 02-67-003         |          |           |          |
| 67-04-08-00.5                   | 48°33'n  | 125°32'w  | 30.818   |
| 08-02.0                         | 48°38'   | 126°00'   | 30.228   |
| 08-14.7                         | 49°00'   | 130°40'   | 32.509   |
| 08-18.0                         | 49°02'   | 130°40'   | 32.465   |
| 08-22.2                         | 49°09'   | 132°40'   | 32.483   |
| 09-04.0                         | 49°15'   | 133°40'   | 32.601   |
| 09-08.0                         | 49°17'   | 134°40'   | 32.784   |
| 09-12.0                         | 49°21'   | 135°40'   | 32.674   |
| 09-15.2                         | 49°26'   | 136°40'   | 32.597   |
| 09-19.0                         | 49°30'   | 137°40'   | 32.580   |
| 09-23.5                         | 49°34'   | 138°40'   | 32.591   |
| 10-02.8                         | 49°38'   | 139°40'   | 32.610   |
| 10-07.0                         | 49°41'   | 140°40'   | 32.637   |
| 10-13.0                         | 49°46'   | 141°40'   | 32.651   |
| 11-05.3                         | 49°49'   | 142°40'   | 32.657   |
| 11-15.0                         | 49°54'   | 143°40'   | 32.656   |
| 12-00.0                         | 49°59'   | 144°58'   | 32.718   |
| 13-00.0                         | 50°02'   | 145°04'   | 32.711   |
| 14-00.0                         | 50°06'   | 145°07'   | 32.706   |
| 15-00.0                         | 50°03'   | 145°02'   | 32.673   |
| 16-00.0                         | 49°59'   | 145°10'   | 32.688   |
| 17-00.0                         | 49°58'   | 145°08'   | 32.691   |
| 18-00.0                         | 50°12'   | 145°00'   | 32.675   |
| 19-00.0                         | 49°45'   | 144°40'   | 32.675   |
| 19-12.0                         | 50°10'   | 145°10'   | 32.693   |
| 21-00.0                         | 49°31'   | 145°08'   | 32.698   |
| 22-00.0                         | 49°58'   | 145°05'   | 32.699   |
| 23-00.0                         | 50°14'   | 144°53'   | 32.686   |
| 24-00.0                         | 50°00'   | 144°52'   | 32.711   |
| 25-00.0                         | 49°55'   | 145°00'   | 32.696   |
| 26-00.0                         | 49°45'   | 144°53'   | 32.696   |
| 27-00.0                         | 50°00'   | 145°09'   | 32.685   |
| 28-00.0                         | 50°04'   | 145°11'   | 32.686   |
| 29-00.0                         | 50°07'   | 145°02'   | 32.683   |
| 30-00.0                         | 50°08'   | 144°52'   | 32.667   |



## Surface Salinity Observations

| Date-Time                       | Position |           | Salinity |
|---------------------------------|----------|-----------|----------|
| G.M.T.                          | Latitude | Longitude | ‰        |
| CCGS "Vancouver", Survey P-67-2 |          |           |          |
| 67-05-01-00.0                   | 50°04'n  | 145°08'w  | 32.683   |
| 02-00.0                         | 50°08'   | 145°01'   | 32.670   |
| 03-00.0                         | 50°07'   | 145°01'   | 32.685   |
| 04-00.0                         | 50°07'   | 144°53'   | 32.667   |
| 05-00.0                         | 50°04'   | 144°58'   | 32.647   |
| 06-00.0                         | 50°01'   | 145°07'   | 32.642   |
| 07-00.0                         | 50°01'   | 144°58'   | 32.613   |
| 08-00.0                         | 49°58'   | 144°39'   | 32.646   |
| 09-00.0                         | 49°52'   | 145°00'   | 32.652   |
| 10-00.0                         | 49°51'   | 145°00'   | 32.643   |
| 11-00.0                         | 49°57'   | 145°00'   | 32.663   |
| 12-00.0                         | 49°53'   | 144°54'   | 32.639   |
| 13-00.0                         | 50°08'   | 144°44'   | 32.634   |
| 14-00.0                         | 50°06'   | 145°02'   | 32.639   |
| 15-00.0                         | 50°05'   | 144°50'   | 32.635   |
| 16-00.0                         | 50°01'   | 144°56'   | 32.652   |
| 17-00.0                         | 50°00'   | 144°52'   | 32.642   |
| 18-00.0                         | 50°07'   | 144°55'   | 32.673   |
| 19-00.0                         | 50°07'   | 144°57'   | 32.676   |
| 20-00.0                         | 50°00'   | 145°08'   | 32.657   |
| 21-00.0                         | 50°03'   | 144°50'   | 32.673   |
| 22-00.0                         | 50°04'   | 144°56'   | 32.665   |
| 22-06.5                         | 49°55'   | 144°40'   | 32.670   |
| 22-13.0                         | 49°48'   | 142°28'   | 32.641   |
| 22-23.0                         | 49°38'   | 139°40'   | 32.611   |
| 23-02.5                         | 49°34'   | 138°40'   | 32.424   |
| 23-05.0                         | 49°30'   | 137°40'   | 32.585   |
| 23-11.2                         | 49°23'   | 135°40'   | 32.699   |
| 24-05.0                         | 48°53'   | 129°40'   | 31.929   |

## Surface Salinity Observations

| Date-Time<br>G.M.T.  | Position<br>Latitude      Longitude |          | Salinity<br>‰ |
|--|-------------------------------------|----------|---------------|
| CCGS "Stonetown", Patrol No. 74<br>CODC Ref. No. 02-67-004 |                                     |          |               |
| 67-05-24-00.0  | 50°01'n                             | 144°57'w | 32.753        |
| 25-00.0  | 50°04'                              | 145°05'  | 32.673        |
| 26-00.0  | 50°03'                              | 145°00'  | 32.669        |
| 27-00.0  | 50°00'                              | 145°00'  | 32.605        |
| 28-00.0  | 50°02'                              | 145°03'  | 32.733        |
| 29-00.0  | 50°00'                              | 145°20'  | 32.862        |
| 30-00.0  | 49°58'                              | 144°53'  | 32.683        |
| 31-00.0  | 49°59'                              | 145°04'  | 32.686        |
| 67-06-01-00.0  | 50°00'                              | 145°00'  | 32.672        |
| 02-00.0  | 50°05'                              | 144°56'  | 32.695        |
| 03-00.0  | 49°57'                              | 145°02'  | 32.672        |
| 04-00.0  | 50°00'                              | 145°00'  | 32.669        |
| 05-00.0  | 50°01'                              | 145°01'  | 32.758        |
| 06-00.0  | 49°56'                              | 145°02'  | 32.747        |
| 07-00.0  | 50°04'                              | 144°58'  | 32.637        |
| 08-00.0  | 50°03'                              | 144°58'  | 32.690        |
| 09-00.0  | 50°03'                              | 144°58'  | 32.688        |
| 10-00.0  | 50°00'                              | 145°04'  | 32.660        |
| 11-00.0  | 50°00'                              | 144°59'  | 32.659        |
| 12-00.0  | 50°00'                              | 144°57'  | 32.702        |
| 13-00.0  | 50°03'                              | 144°58'  | 32.646        |
| 14-00.0  | 50°00'                              | 144°56'  | 32.593        |
| 15-00.0  | 50°01'                              | 145°00'  | 32.691        |
| 16-00.0  | 50°00'                              | 145°00'  | 32.660        |
| 17-00.0  | 50°03'                              | 145°04'  | 32.585        |
| 18-00.0  | 50°01'                              | 145°00'  | 32.572        |
| 19-00.0  | 50°01'                              | 145°00'  | 32.608        |
| 20-00.0  | 50°00'                              | 144°56'  | 32.615        |
| 21-00.0  | 50°10'                              | 145°00'  | 32.681        |
| 22-00.0  | 49°59'                              | 145°00'  | 32.605        |
| 23-00.0  | 50°02'                              | 145°03'  | 32.628        |
| 67-06-24-00.0  | 50°00'                              | 145°03'  | 32.486        |
| 25-00.0  | 50°00'                              | 145°00'  | 32.581        |
| 26-00.0  | 50°02'                              | 145°03'  | 32.568        |
| 27-00.0  | 50°03'                              | 145°02'  | 32.564        |
| 29-00.0  | 49°58'                              | 145°07'  | 32.603        |
| 30-00.0  | 50°03'                              | 144°57'  | 32.609        |
| 07-02-00.0   | 50°02'                              | 145°01'  | 32.547        |
| 03-00.0  | 50°03'                              | 145°04'  | 32.492        |
| 04-00.0  | 49°53'                              | 145°04'  | 32.514        |

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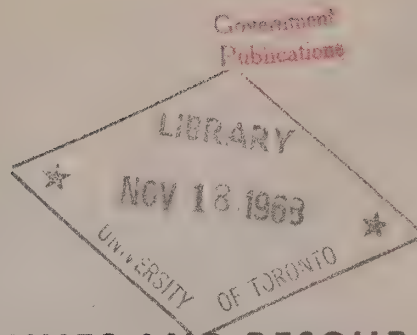
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**Ottawa**

# **BAFFIN BAY BATHYTHERMOGRAMS** **1964**

**September 4 to October 24, 1964**

**No. 6**

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MARINE SCIENCES BRANCH

BAFFIN BAY BATHYTHERMOGRAMS, 1964

|                           |                                |
|---------------------------|--------------------------------|
| Ship:                     | CCGS "Labrador"                |
| Local cruise designation: | Lab 13-64                      |
| Cruise period:            | September 4 - October 24, 1964 |

ATLANTIC OCEANOGRAPHIC LABORATORY, Dartmouth, N.S.

DIVISION OF OCEANOGRAPHIC RESEARCH, Ottawa





CCGS LABRADOR







Figure 1

An interpretation of the general bathymetry of Baffin Bay based on Canadian Hydrographic Service Chart 7010 supplemented by data from coastal charts CHS 7051 to 7055, 7070; and from charts of the Royal Danish Hydrographic Office 1300 to 1700, 3100, 3200; and from a part (from 65 N to 72 N) of the sounding track of the 1964 cruise of CCGS "Labrador" and depths observed at oceanographic stations occupied by "Labrador" in 1962, 1963 and 1964. The shaded area shows the approximate position of the sill in Davis Strait.







Figure 2

Positions at which oceanographic stations were occupied by CCGS "Labrador" in 1964. The consecutive number of each station is indicated.



## INTRODUCTION

In September and October 1964, CCGS "Labrador" carried out a survey programme in Baffin Bay (Fig. 1) which included magnetic measurements, geological sampling and physical oceanography. Operations were not unduly hampered by ice since open water conditions prevailed in Baffin Bay during the cruise period (Anon., 1964). Barrett (1966) described the results of the magnetometer survey in Lancaster Sound; Grant (1965) discussed the distribution of marine sediments sampled at the grab stations. The serial oceanographic data were published (Anon., 1965) and a portion of the data was described by Collin (1965). Station positions (Fig. 2) are concentrated in northern Baffin Bay; many are in the deep water. In connection with further studies of the serial data, the bathythermograms obtained on the cruise were examined.

A deep bathythermograph was lowered at each station (Fig. 2) and the slides were processed at Bedford Institute. The corresponding grid was superimposed on each trace and the result photographed. Since the slides were not available, the 3" x 5" photo cards were used to make aperture cards (Sauer, 1964). The data presented here are prints reproduced from the aperture cards. These prints (eg. the bathythermograms for stations 1, 58 and 59) show the temperature ( $^{\circ}\text{C}$ ), depth (meters), and the BT trace and markings on the BT slide giving the date, time, ship, cruise number, and consecutive slide number. A Historical Bathythermogram Conversion (HBC) sequence number (01057 for station 1) was assigned and a machine listing (Table) of the BT stations obtained. The BT station positions were checked to make sure that the consecutive slide numbers (visible on the prints) corresponded to the consecutive numbers of the serial data in the data record (Anon., 1965). On each print the consecutive number and the serial data from the data record were added, and the BT trace was inked in. The prints were cropped and affixed to photo-copy masters.

On a few prints (83, 87) the trace was not completely inked in since part of it was not visible. At most stations the serial data coincided with the BT trace, but a number of discrepancies were apparent. Occasionally a systematic difference between the serial data and the BT trace occurred; this was due to either poor positioning of the slide in the bathythermograph or to errors in processing the slides. The largest error of this type is at station 95, where the BT temperatures are  $1.7^{\circ}\text{C}$  lower than the serial data; it also occurred at stations 51, 52, 80, 81, 89, 90, 91 and 93. It seemed obvious that the temperature at 62m at station 10 should be negative instead of positive, but the original record showed a malfunction of the thermometer occurred so the value should be deleted. It also showed that at station 39, the serial temperatures at 0m and 10m should be  $+0.82$  and  $+0.71^{\circ}\text{C}$  instead of the values shown in the data record.

The material was prepared for publication by Miss Adriana Huyer and Mr. Maurice Isabelle.



Table. A copy of the machine listing showing the consecutive number, the latitude and longitude in degrees and minutes, the day, month and year, the Greenwich Mean Time in hours and minutes and the HBC sequence number of each bathythermogram.

| CON<br>No | LAT |     | LONG |     | DATE |     |      | GMT |     | HBC<br>No |
|-----------|-----|-----|------|-----|------|-----|------|-----|-----|-----------|
|           | Deg | Min | Deg  | Min | Day  | Mon | Year | Hrs | Min |           |
| 1         | 77  | 56  | 074  | 12  | 05   | 09  | 64   | 13  | 39  | 01057     |
| 2         | 78  | 52  | 072  | 41  | 05   | 09  | 64   | 23  | 30  | 01056     |
| 3         | 79  | 09  | 072  | 06  | 06   | 09  | 64   | 12  | 35  | 01055     |
| 4         | 79  | 30  | 071  | 00  | 06   | 09  | 64   | 19  | 18  | 01054     |
| 5         | 79  | 42  | 070  | 28  | 06   | 09  | 64   | 22  | 35  | 01053     |
| 6         | 80  | 07  | 068  | 55  | 07   | 09  | 64   | 03  | 30  | 01052     |
| 7         | 81  | 05  | 065  | 15  | 07   | 09  | 64   | 13  | 45  | 01051     |
| 8         | 81  | 45  | 062  | 11  | 07   | 09  | 64   | 20  | 54  | 01050     |
| 9         | 81  | 35  | 062  | 52  | 08   | 09  | 64   | 00  | 50  | 01049     |
| 10        | 81  | 19  | 063  | 21  | 08   | 09  | 64   | 04  | 48  | 01048     |
| 11        | 80  | 50  | 066  | 47  | 08   | 09  | 64   | 12  | 50  | 01047     |
| 12        | 80  | 27  | 068  | 01  | 08   | 09  | 64   | 16  | 28  | 01046     |
| 13        | 79  | 36  | 070  | 39  | 09   | 09  | 64   | 00  | 12  | 01045     |
| 14        | 78  | 11  | 073  | 51  | 09   | 09  | 64   | 14  | 52  | 01044     |
| 15        | 78  | 10  | 074  | 10  | 09   | 09  | 64   | 16  | 15  | 01043     |
| 16        | 78  | 10  | 074  | 31  | 09   | 09  | 64   | 17  | 32  | 01042     |
| 17        | 78  | 10  | 075  | 00  | 09   | 09  | 64   | 18  | 55  | 01041     |
| 18        | 78  | 10  | 075  | 28  | 09   | 09  | 64   | 20  | 32  | 01040     |
| 19        | 77  | 56  | 075  | 40  | 09   | 09  | 64   | 23  | 46  | 01039     |
| 20        | 77  | 57  | 075  | 05  | 10   | 09  | 64   | 02  | 00  | 01038     |
| 21        | 77  | 57  | 074  | 38  | 10   | 09  | 64   | 04  | 00  | 01037     |
| 22        | 77  | 57  | 074  | 12  | 10   | 09  | 64   | 07  | 30  | 01036     |
| 23        | 77  | 57  | 073  | 42  | 10   | 09  | 64   | 09  | 30  | 01035     |
| 24        | 77  | 45  | 074  | 17  | 10   | 09  | 64   | 11  | 41  | 01034     |
| 25        | 77  | 45  | 075  | 18  | 10   | 09  | 64   | 14  | 23  | 01033     |



| CON<br>No | LAT |     | LONG |     | DATE |     |      | GMT |     | HBC<br>No |
|-----------|-----|-----|------|-----|------|-----|------|-----|-----|-----------|
|           | Deg | Min | Deg  | Min | Day  | Mon | Year | Hrs | Min |           |
| 26        | 77  | 33  | 076  | 02  | 10   | 09  | 64   | 17  | 22  | 01032     |
| 27        | 77  | 31  | 075  | 24  | 10   | 09  | 64   | 23  | 30  | 01031     |
| 28        | 77  | 30  | 074  | 42  | 11   | 09  | 64   | 01  | 48  | 01030     |
| 29        | 77  | 28  | 074  | 00  | 11   | 09  | 64   | 03  | 40  | 01029     |
| 30        | 77  | 00  | 074  | 05  | 11   | 09  | 64   | 07  | 54  | 01028     |
| 31        | 76  | 40  | 074  | 05  | 11   | 09  | 64   | 11  | 00  | 01027     |
| 32        | 76  | 14  | 070  | 30  | 11   | 09  | 64   | 21  | 32  | 01026     |
| 33        | 76  | 09  | 071  | 24  | 12   | 09  | 64   | 00  | 17  | 01025     |
| 34        | 76  | 07  | 072  | 21  | 12   | 09  | 64   | 05  | 17  | 01024     |
| 35        | 76  | 02  | 074  | 23  | 12   | 09  | 64   | 10  | 20  | 01023     |
| 36        | 75  | 45  | 068  | 28  | 13   | 09  | 64   | 00  | 30  | 01022     |
| 37        | 75  | 37  | 070  | 05  | 13   | 09  | 64   | 06  | 33  | 01021     |
| 38        | 75  | 28  | 071  | 52  | 13   | 09  | 64   | 11  | 22  | 01020     |
| 39        | 75  | 23  | 073  | 34  | 13   | 09  | 64   | 16  | 25  | 01019     |
| 40        | 75  | 13  | 075  | 18  | 13   | 09  | 64   | 21  | 50  | 01018     |
| 41        | 75  | 05  | 077  | 02  | 14   | 09  | 64   | 02  | 05  | 01017     |
| 42        | 74  | 55  | 078  | 48  | 14   | 09  | 64   | 06  | 38  | 01016     |
| 43        | 73  | 22  | 076  | 12  | 18   | 09  | 64   | 14  | 51  | 01015     |
| 44        | 73  | 47  | 074  | 08  | 18   | 09  | 64   | 21  | 55  | 01014     |
| 45        | 74  | 08  | 072  | 08  | 19   | 09  | 64   | 03  | 45  | 01013     |
| 46        | 75  | 00  | 068  | 45  | 19   | 09  | 64   | 14  | 12  | 01012     |
| 47        | 75  | 25  | 067  | 38  | 19   | 09  | 64   | 19  | 35  | 01011     |
| 48        | 75  | 48  | 066  | 33  | 20   | 09  | 64   | 01  | 45  | 01010     |
| 49        | 75  | 53  | 076  | 43  | 25   | 09  | 64   | 01  | 45  | 01009     |
| 50        | 74  | 32  | 077  | 56  | 25   | 09  | 64   | 12  | 03  | 01008     |

| CON<br>No | LAT |     | LONG |     | DATE |     |      | GMT |     | HBC<br>No |
|-----------|-----|-----|------|-----|------|-----|------|-----|-----|-----------|
|           | Deg | Min | Deg  | Min | Day  | Mon | Year | Hrs | Min |           |
| 51        | 72  | 48  | 074  | 00  | 25   | 09  | 64   | 22  | 00  | 01007     |
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| 53        | 74  | 26  | 070  | 09  | 29   | 09  | 64   | 16  | 30  | 01005     |
| 54        | 74  | 46  | 067  | 45  | 30   | 09  | 64   | 00  | 15  | 01004     |
| 55        | 74  | 13  | 066  | 38  | 30   | 09  | 64   | 06  | 35  | 01003     |
| 56        | 73  | 37  | 069  | 57  | 30   | 09  | 64   | 16  | 15  | 01001     |
| 57        | 73  | 20  | 071  | 45  | 30   | 09  | 64   | 22  | 23  | 01002     |
| 58        | 72  | 47  | 069  | 58  | 01   | 10  | 64   | 04  | 05  | 00300     |
| 59        | 73  | 08  | 067  | 49  | 01   | 10  | 64   | 11  | 15  | 00447     |
| 60        | 73  | 47  | 065  | 50  | 01   | 10  | 64   | 19  | 35  | 01000     |
| 61        | 74  | 28  | 063  | 52  | 02   | 10  | 64   | 03  | 34  | 00999     |
| 62        | 74  | 07  | 061  | 12  | 02   | 10  | 64   | 15  | 40  | 00997     |
| 63        | 74  | 30  | 059  | 25  | 02   | 10  | 64   | 10  | 47  | 00998     |
| 64        | 73  | 45  | 063  | 06  | 02   | 10  | 64   | 21  | 00  | 00996     |
| 65        | 73  | 14  | 065  | 02  | 03   | 10  | 64   | 03  | 00  | 00995     |
| 66        | 72  | 50  | 066  | 48  | 03   | 10  | 64   | 08  | 30  | 00994     |
| 67        | 72  | 26  | 067  | 22  | 03   | 10  | 64   | 14  | 35  | 00993     |
| 68        | 72  | 03  | 068  | 28  | 03   | 10  | 64   | 19  | 30  | 00991     |
| 69        | 71  | 54  | 067  | 10  | 04   | 10  | 64   | 00  | 30  | 00990     |
| 70        | 72  | 14  | 066  | 02  | 04   | 10  | 64   | 06  | 25  | 00989     |
| 71        | 72  | 31  | 064  | 55  | 04   | 10  | 64   | 13  | 15  | 00988     |
| 72        | 72  | 00  | 064  | 55  | 04   | 10  | 64   | 17  | 30  | 00987     |
| 73        | 71  | 54  | 063  | 49  | 04   | 10  | 64   | 23  | 25  | 00986     |
| 74        | 71  | 30  | 064  | 55  | 05   | 10  | 64   | 05  | 25  | 00985     |
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| 78        | 70  | 00  | 056  | 00  | 06   | 10  | 64   | 06  | 50  | 00981     |
| 79        | 69  | 00  | 060  | 00  | 06   | 10  | 64   | 16  | 15  | 00980     |
| 80        | 68  | 40  | 064  | 51  | 07   | 10  | 64   | 08  | 45  | 00979     |
| 81        | 66  | 20  | 060  | 39  | 07   | 10  | 64   | 21  | 36  | 00978     |
| 82        | 66  | 30  | 059  | 00  | 08   | 10  | 64   | 02  | 15  | 00977     |
| 83        | 66  | 36  | 057  | 39  | 08   | 10  | 64   | 05  | 28  | 00976     |
| 84        | 66  | 41  | 056  | 20  | 08   | 10  | 64   | 08  | 40  | 00975     |
| 85        | 66  | 48  | 055  | 00  | 08   | 10  | 64   | 12  | 05  | 00974     |
| 86        | 64  | 30  | 056  | 58  | 08   | 10  | 64   | 22  | 35  | 00973     |
| 87        | 62  | 48  | 057  | 00  | 09   | 10  | 64   | 06  | 15  | 00972     |
| 88        | 62  | 00  | 064  | 00  | 10   | 10  | 64   | 02  | 40  | 00971     |
| 89        | 60  | 31  | 063  | 02  | 10   | 10  | 64   | 09  | 45  | 00970     |
| 90        | 59  | 42  | 058  | 00  | 20   | 10  | 64   | 17  | 20  | 00969     |
| 91        | 59  | 00  | 055  | 00  | 21   | 10  | 64   | 01  | 15  | 00968     |
| 92        | 58  | 00  | 060  | 00  | 21   | 10  | 64   | 16  | 15  | 00967     |
| 93        | 57  | 00  | 057  | 00  | 22   | 10  | 64   | 00  | 05  | 00966     |
| 94        | 55  | 00  | 057  | 00  | 22   | 10  | 64   | 09  | 30  | 00965     |
| 95        | 53  | 00  | 055  | 00  | 22   | 10  | 64   | 21  | 47  | 00964     |

BATHYTHERMOGRAMS

CCGS "Labrador" Baffin Bay

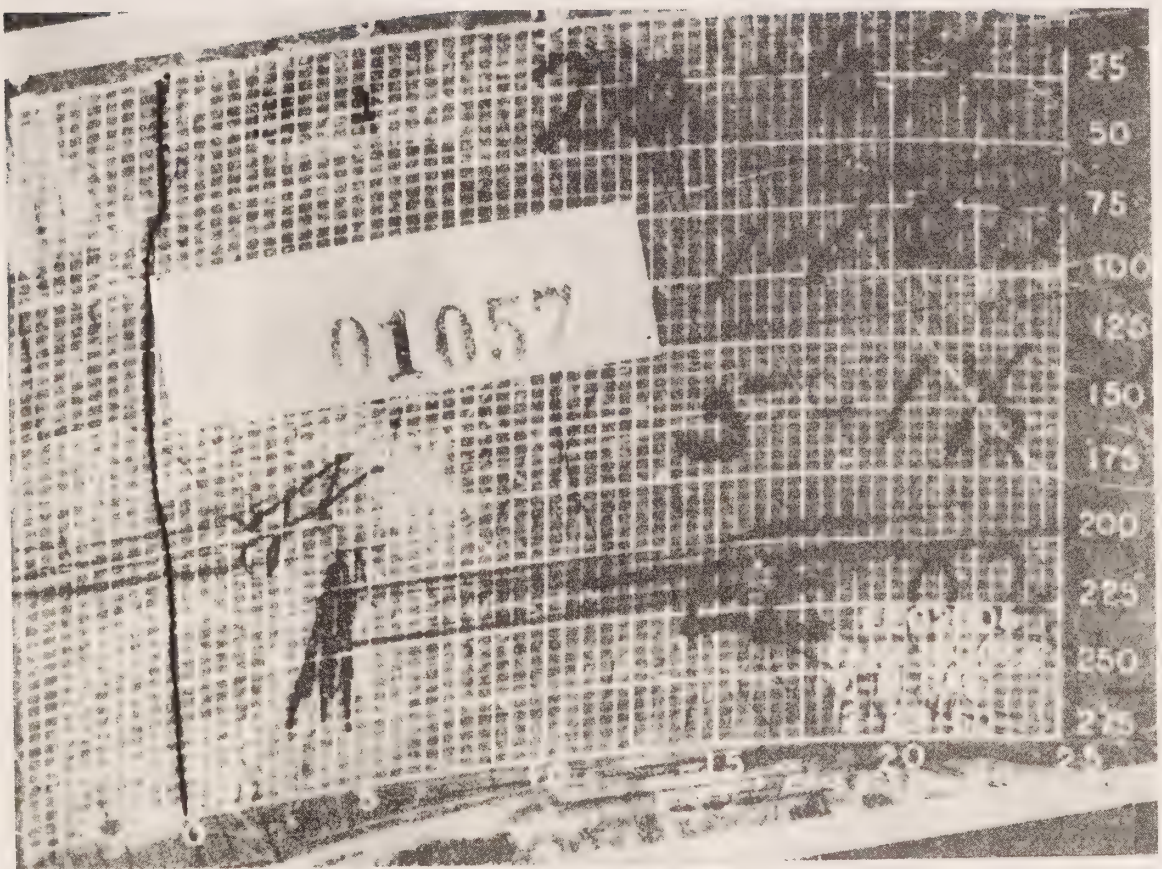
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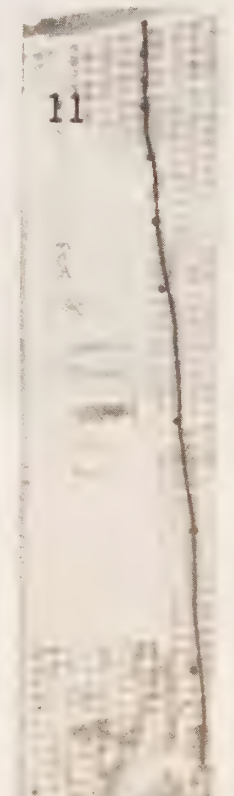
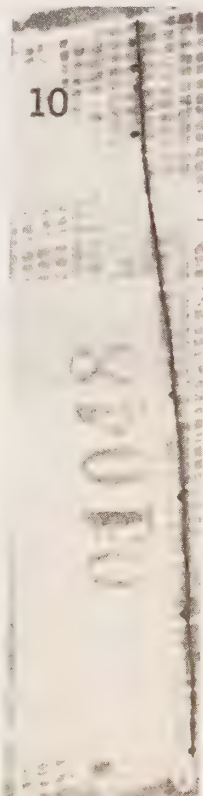
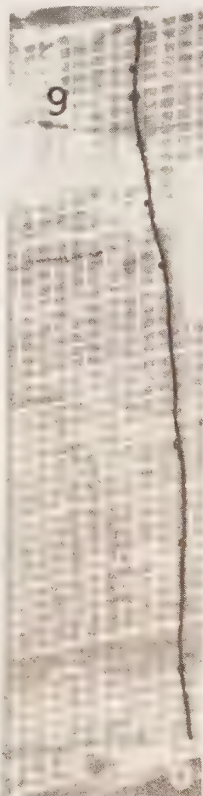
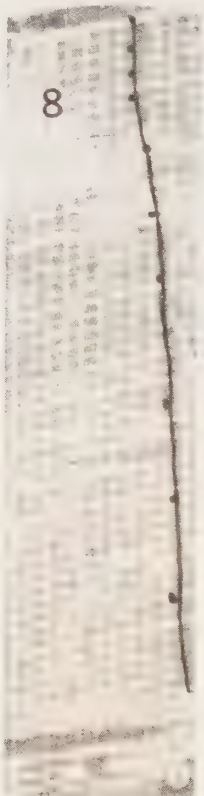
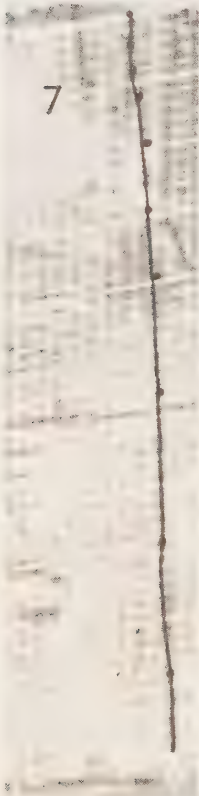
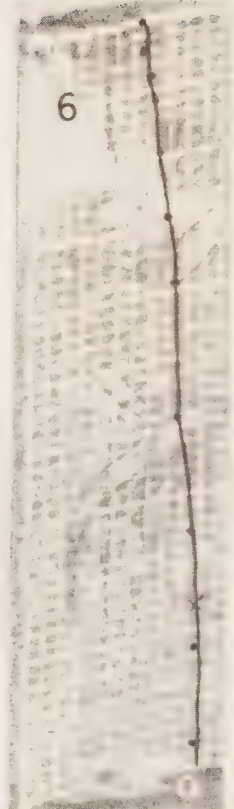
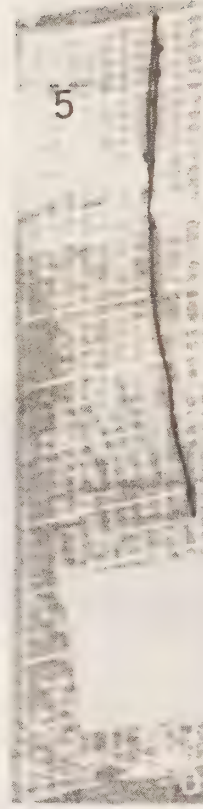
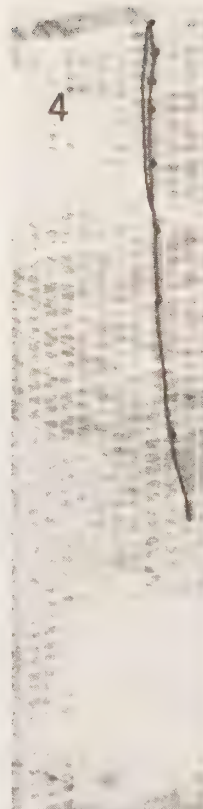
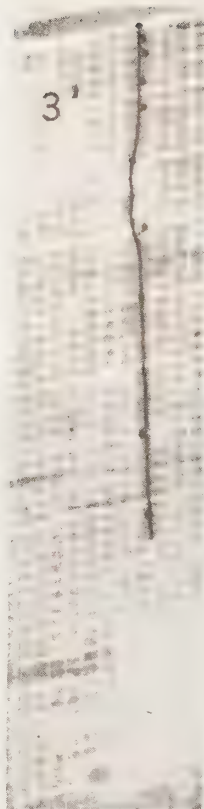
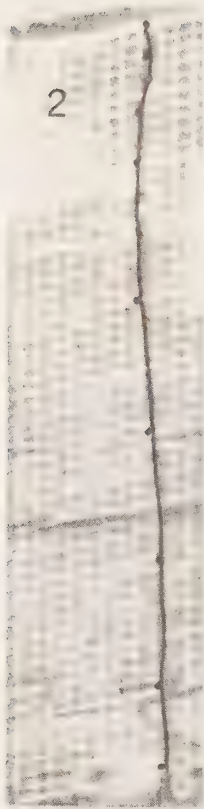
NOTE

The number on each is the consecutive number (Fig. 2).

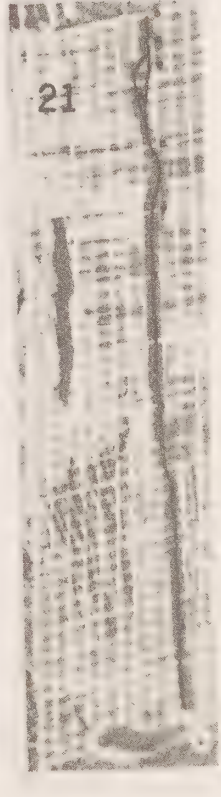
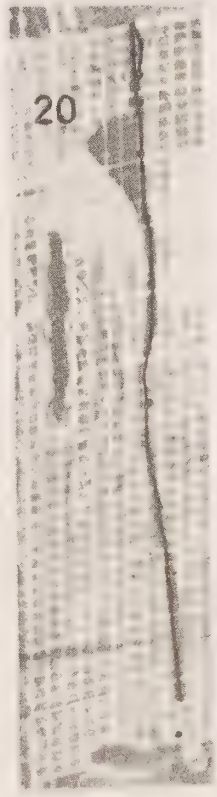
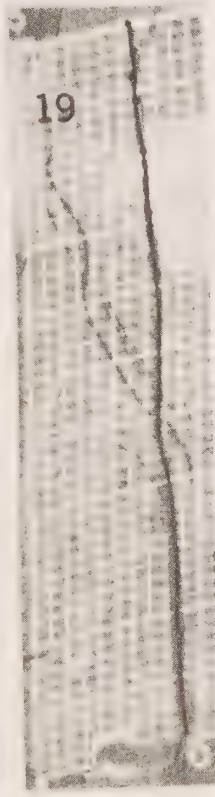
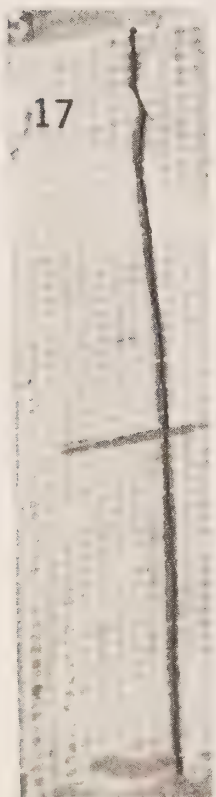
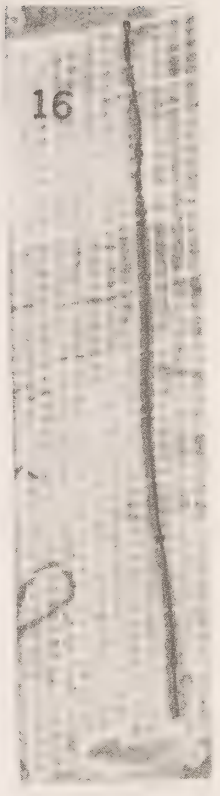
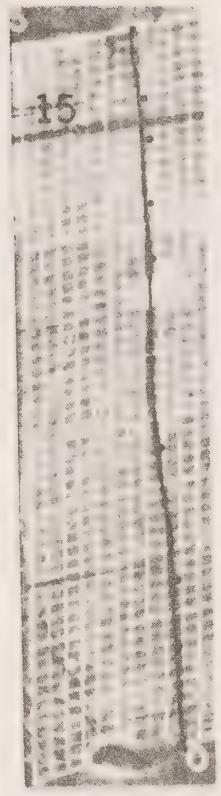
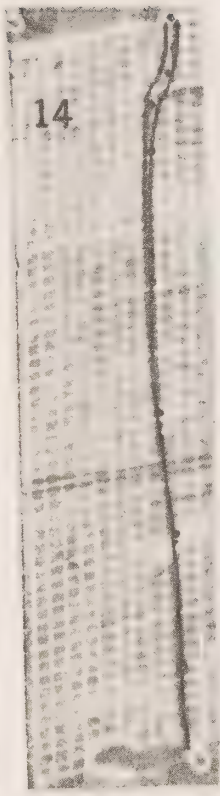
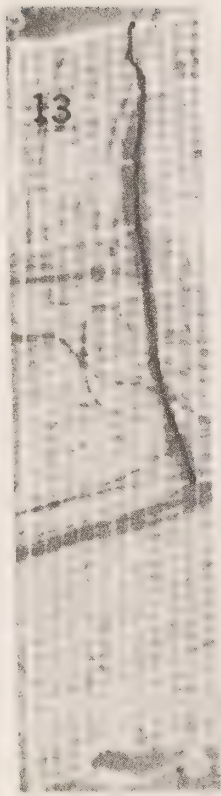
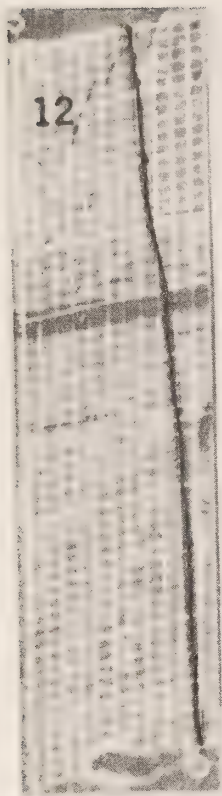


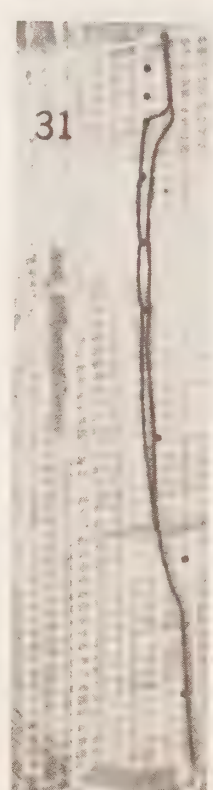
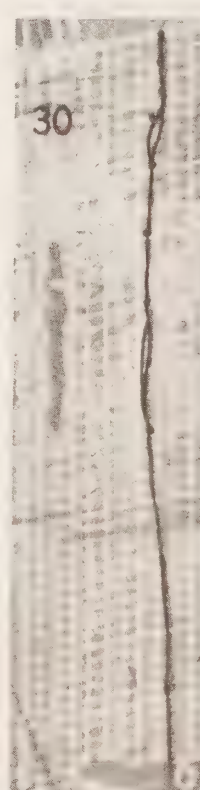
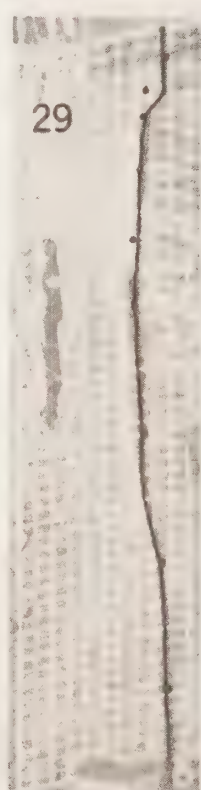
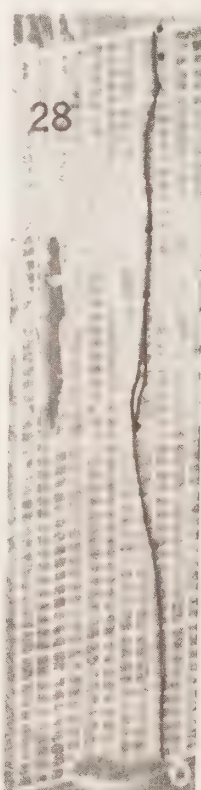
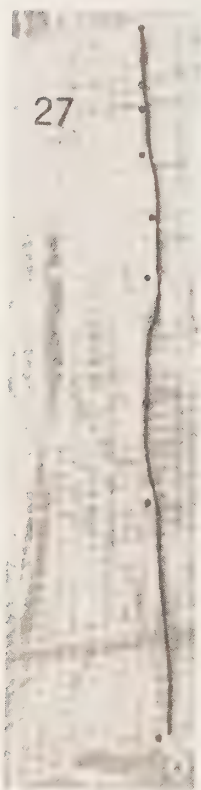
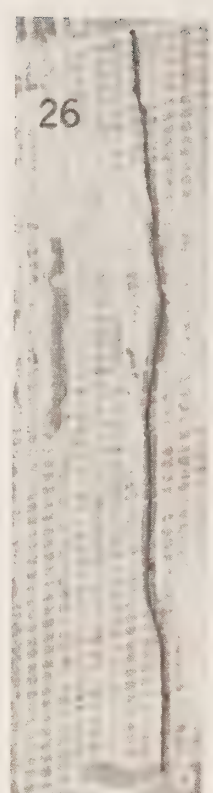
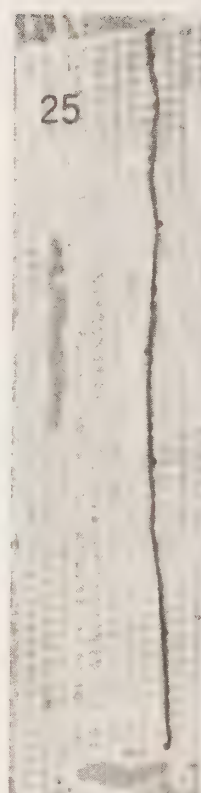
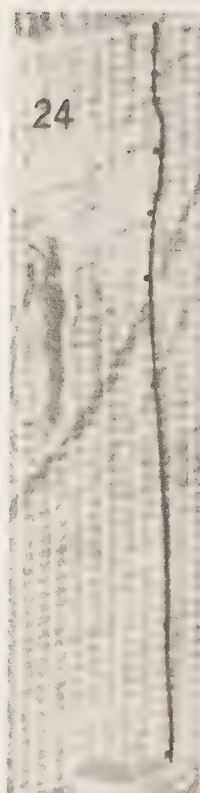
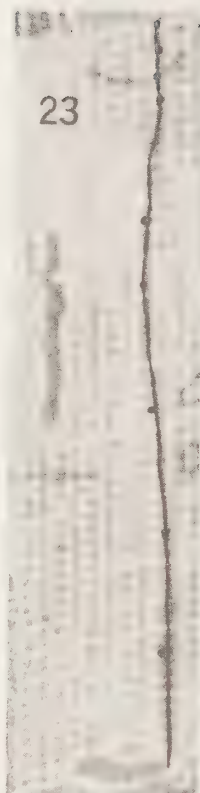
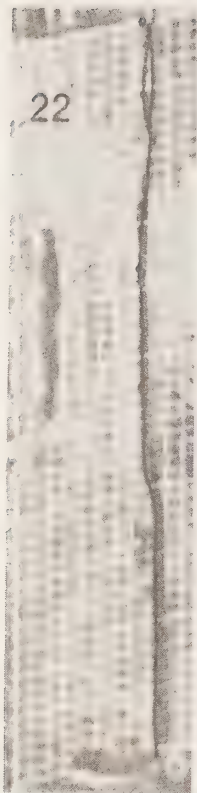




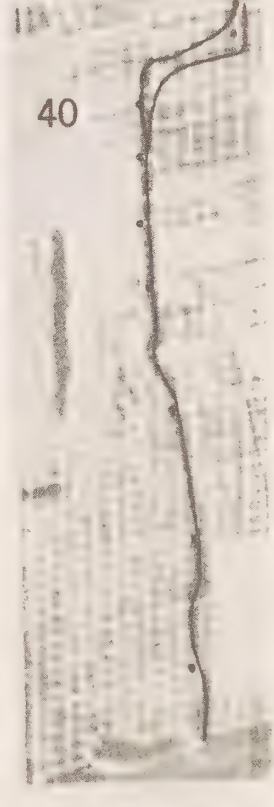
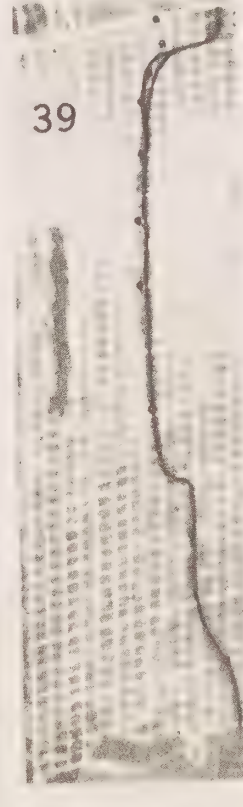
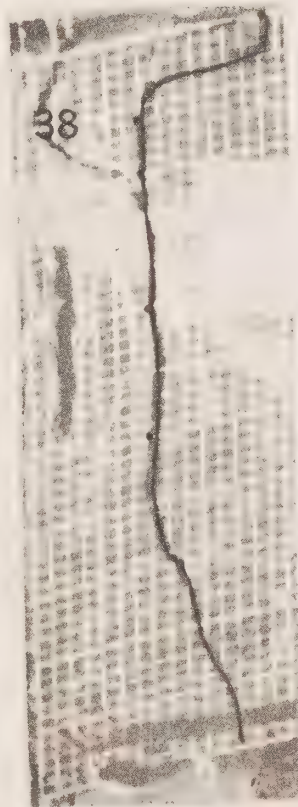
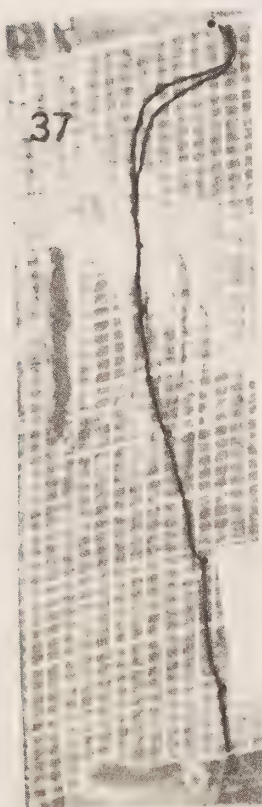
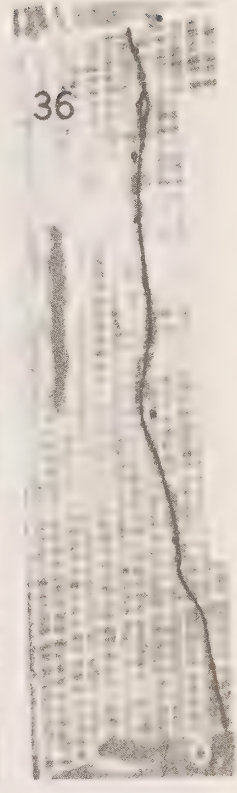
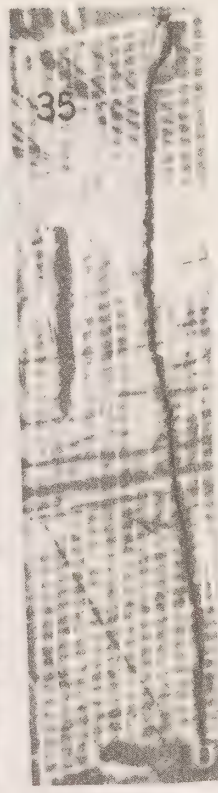
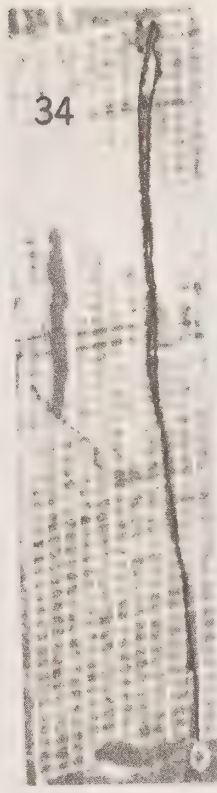
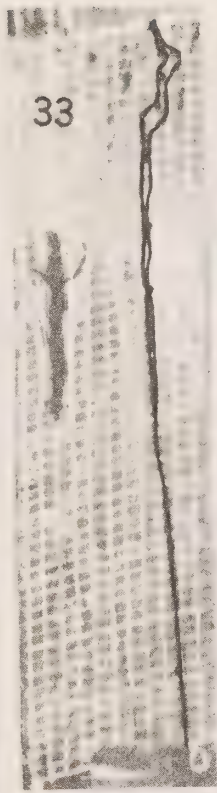
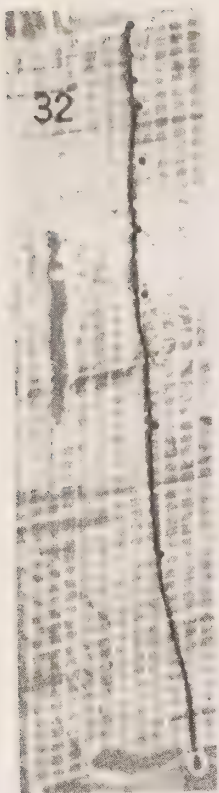




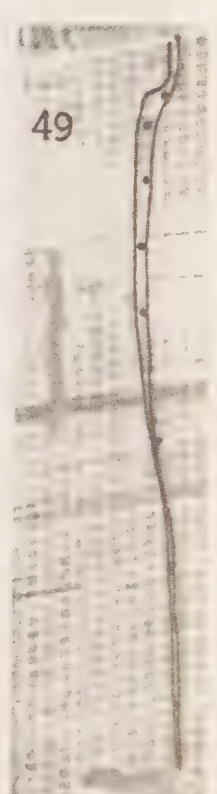
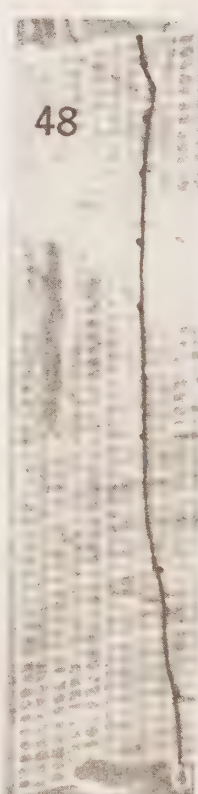
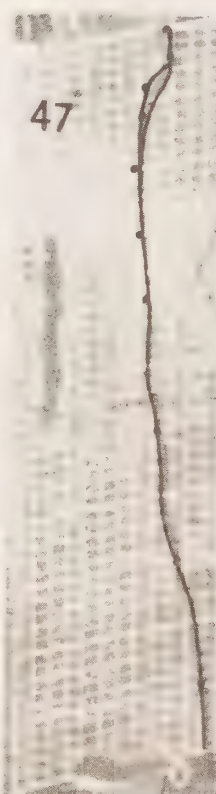
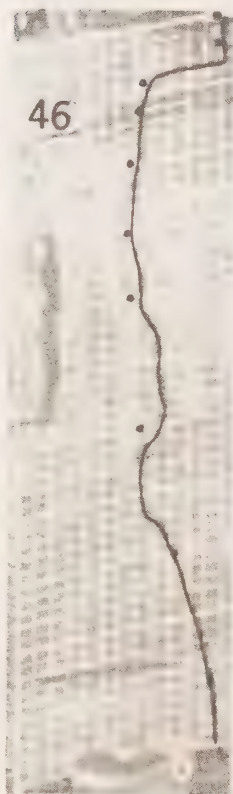
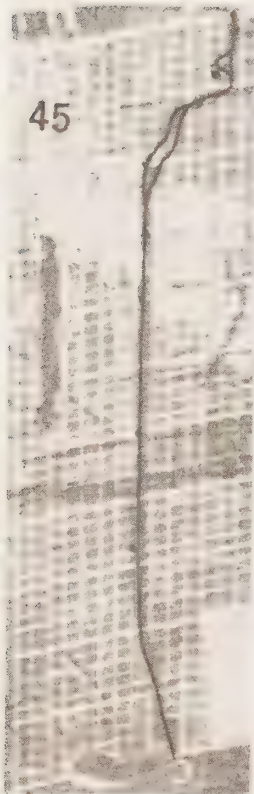
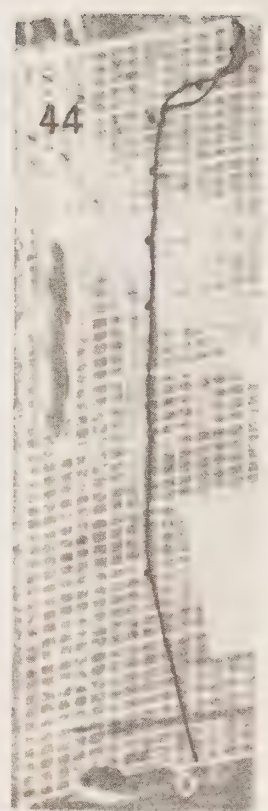
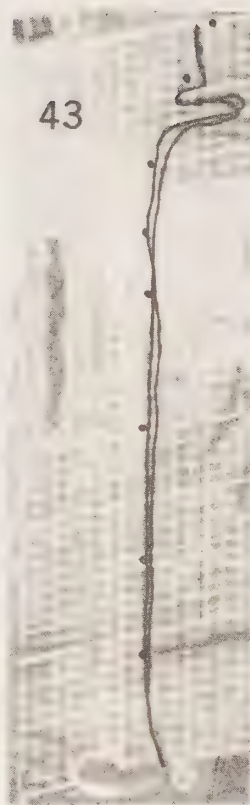
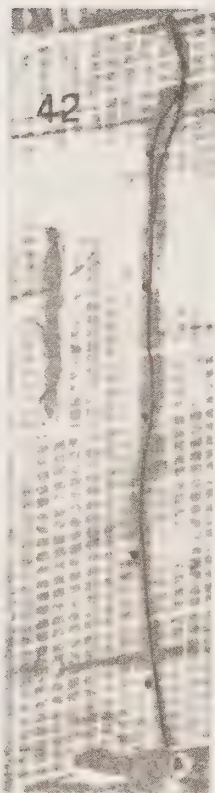
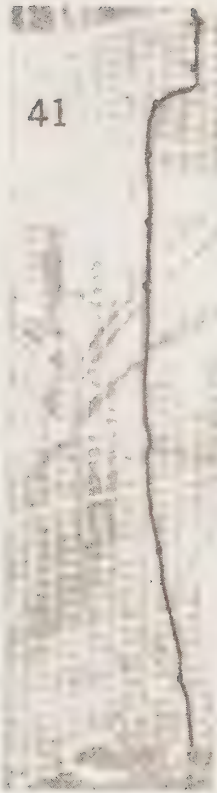


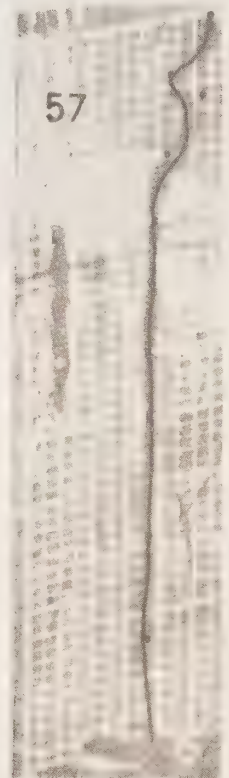
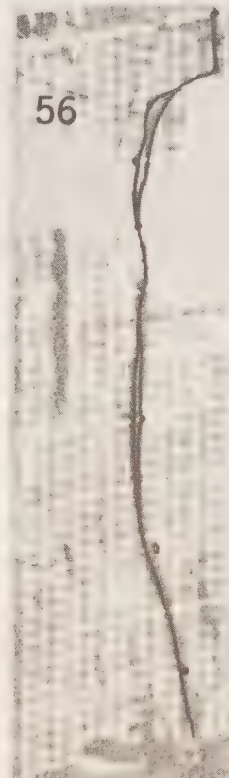
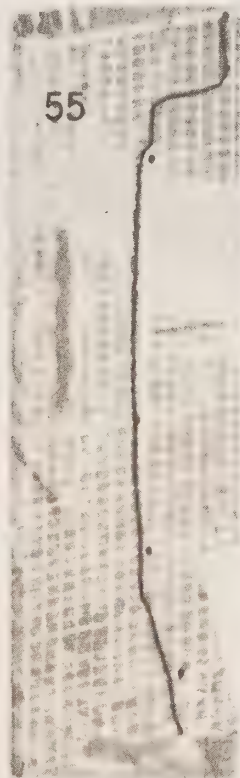
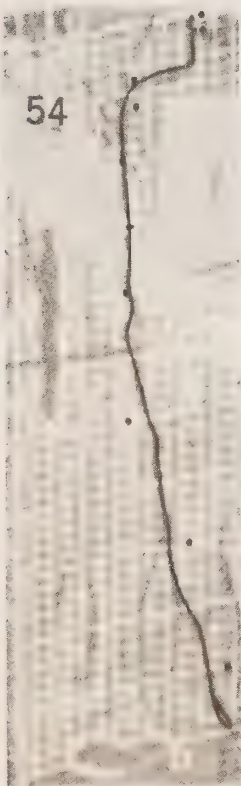
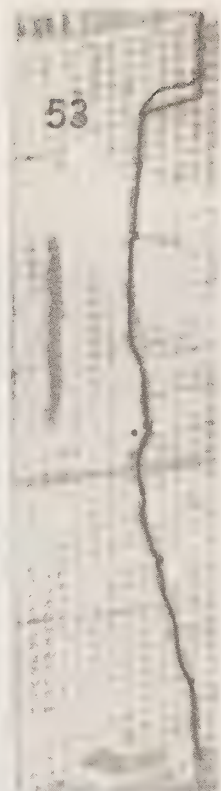
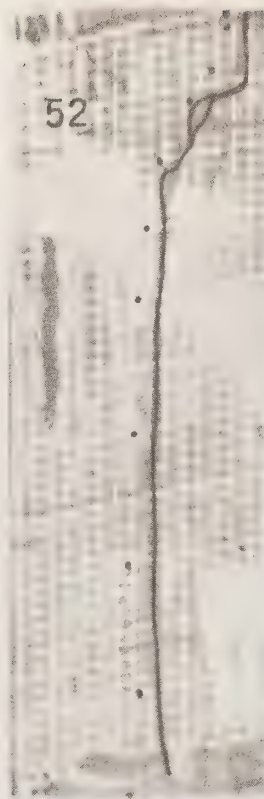
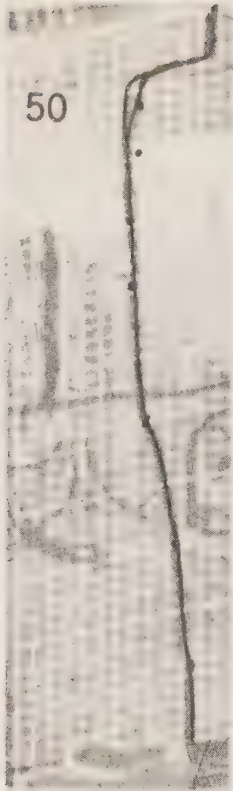








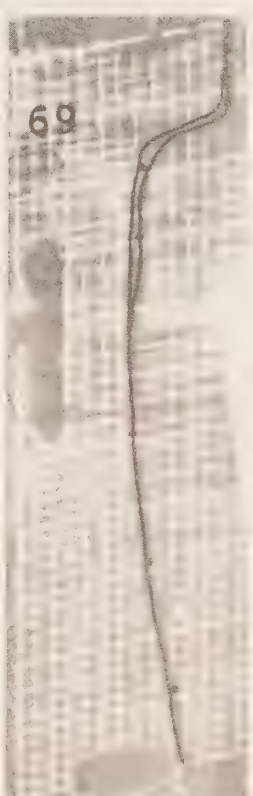
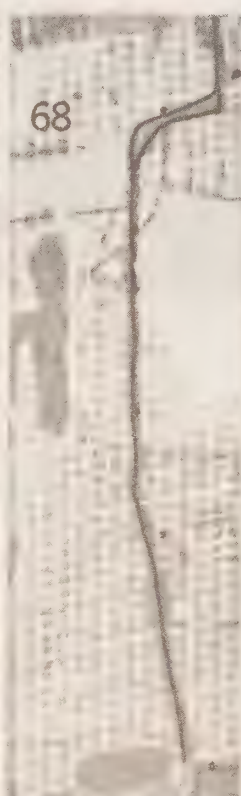
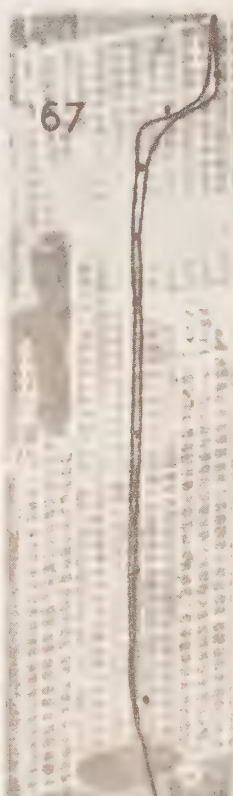
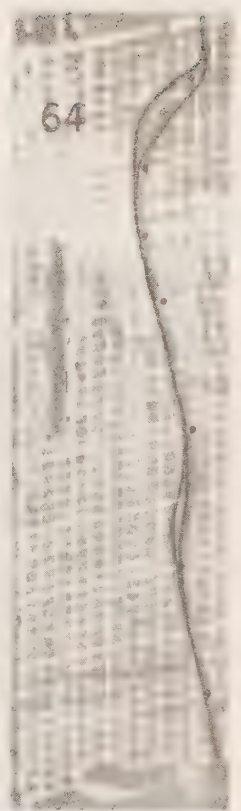
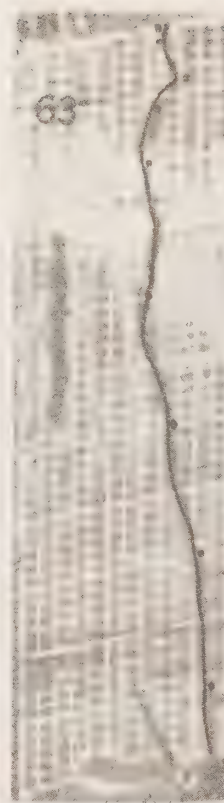
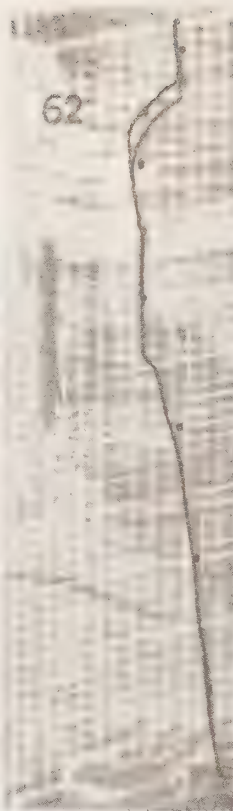
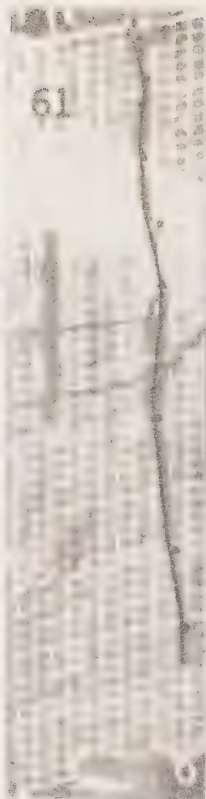
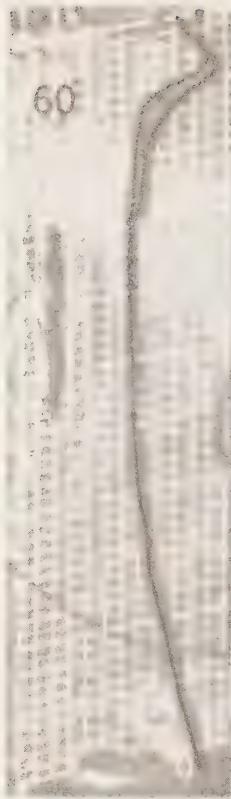




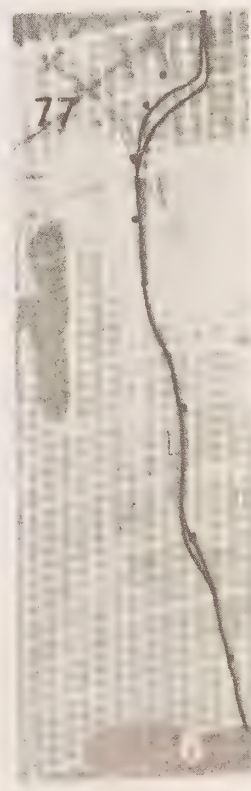
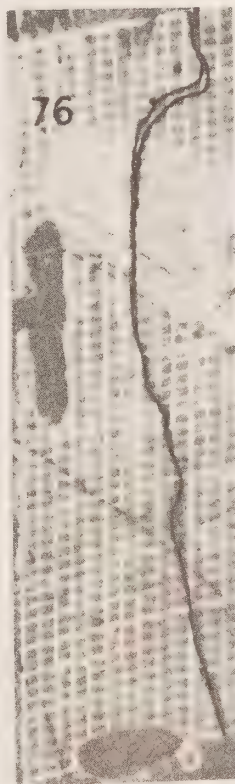
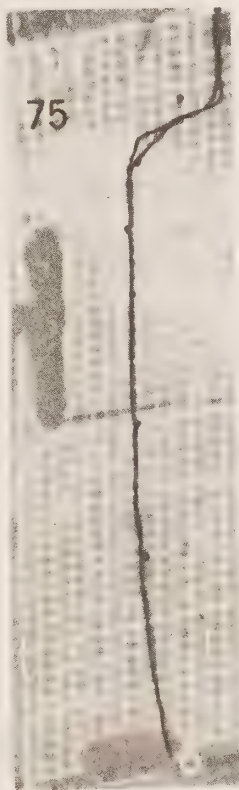
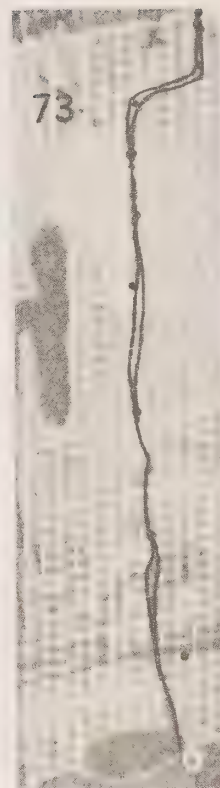
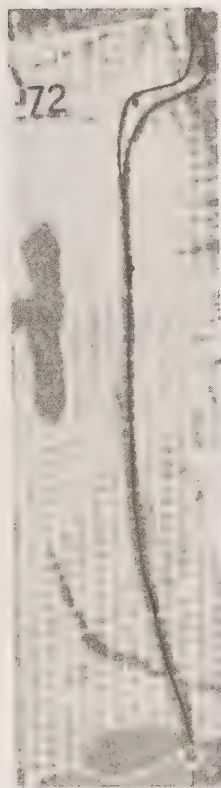
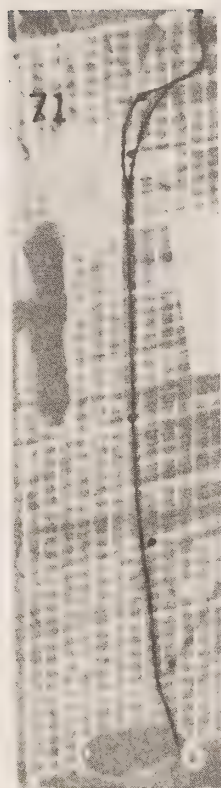


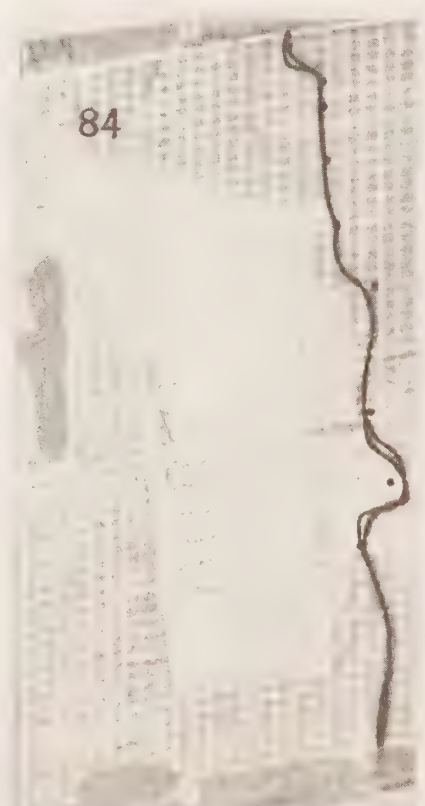
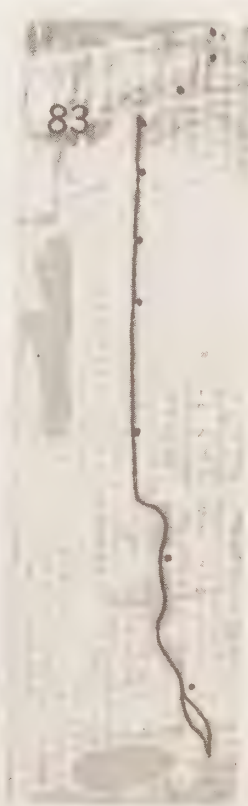
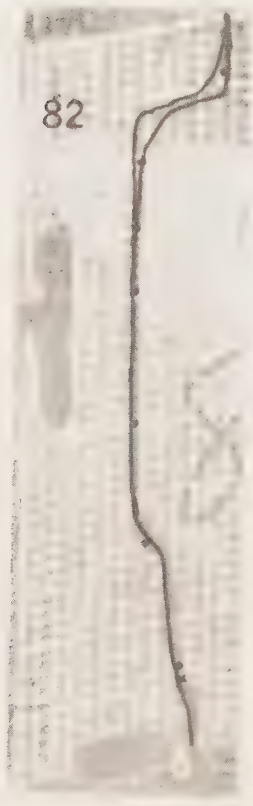
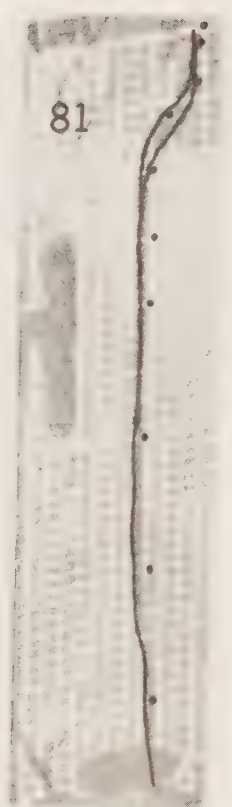
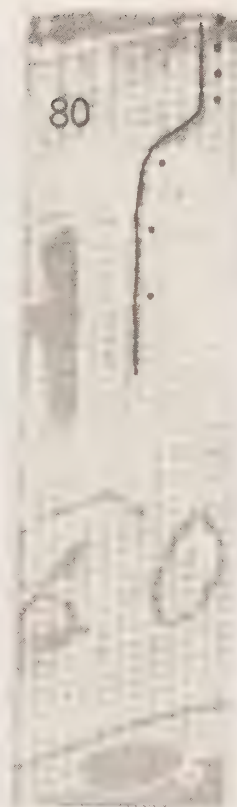
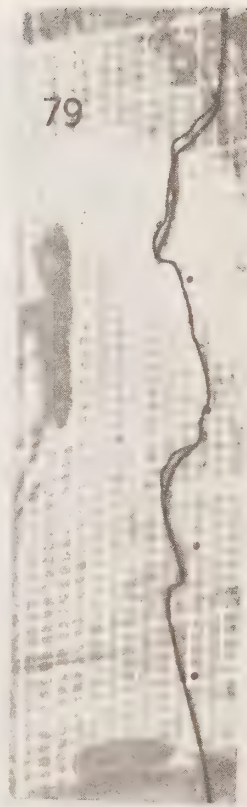
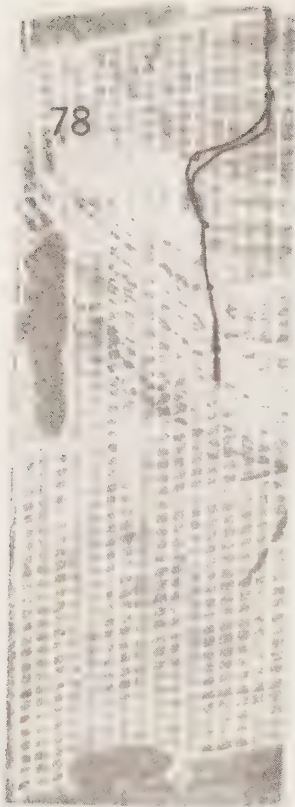




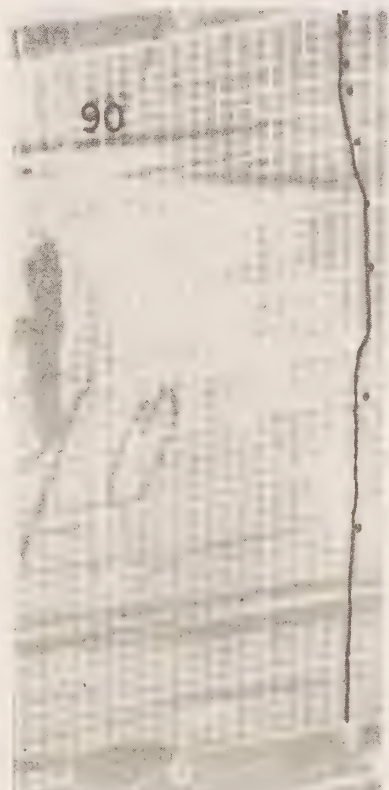
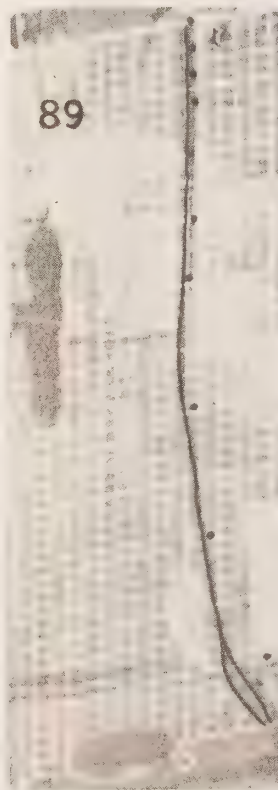
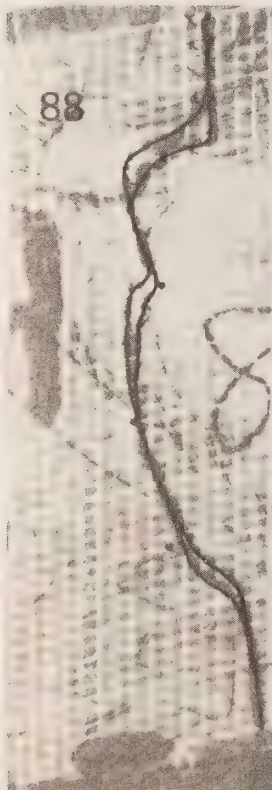
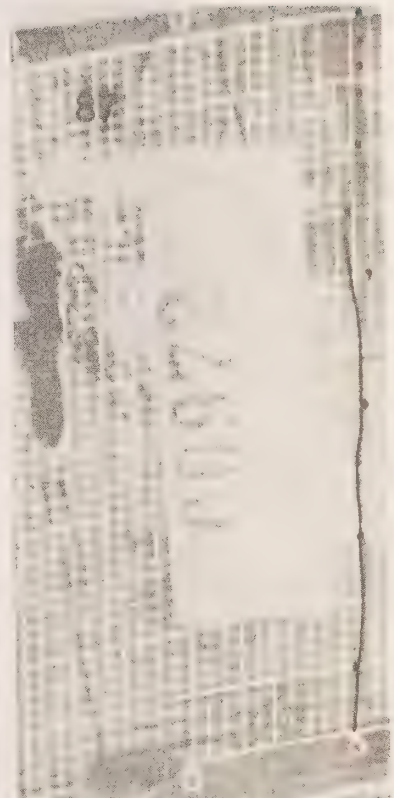
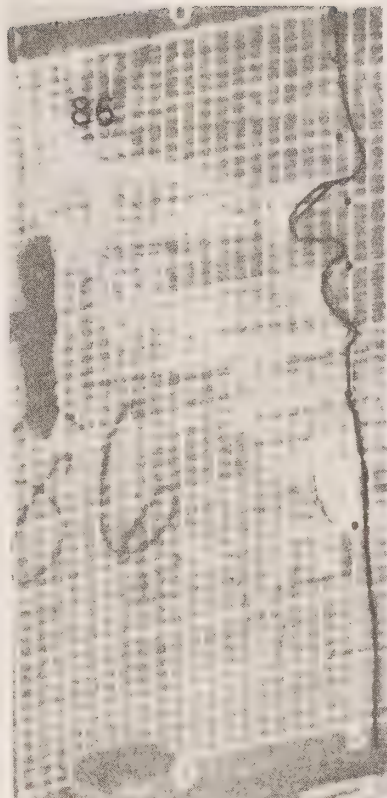
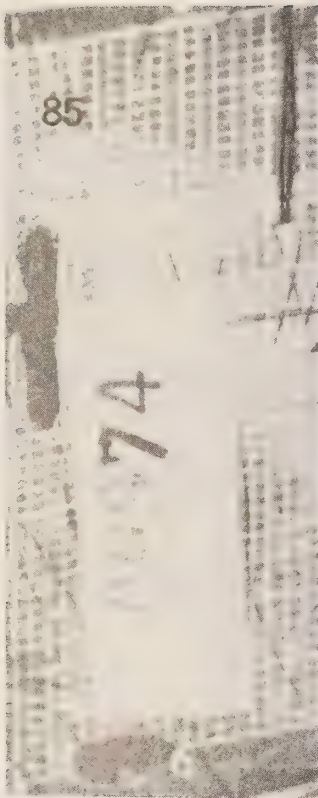


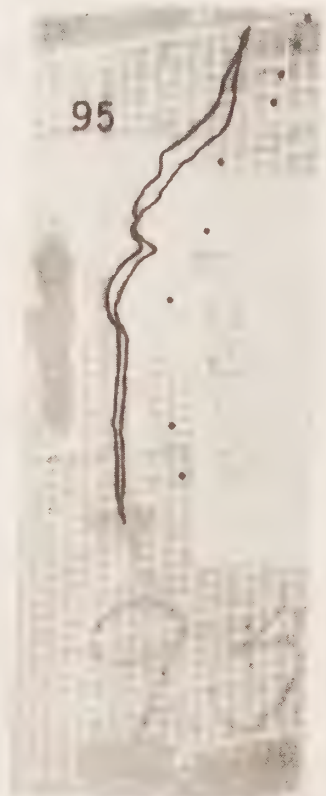
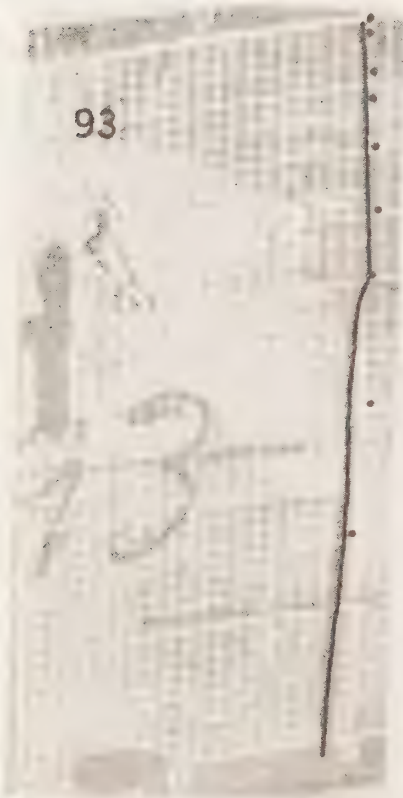
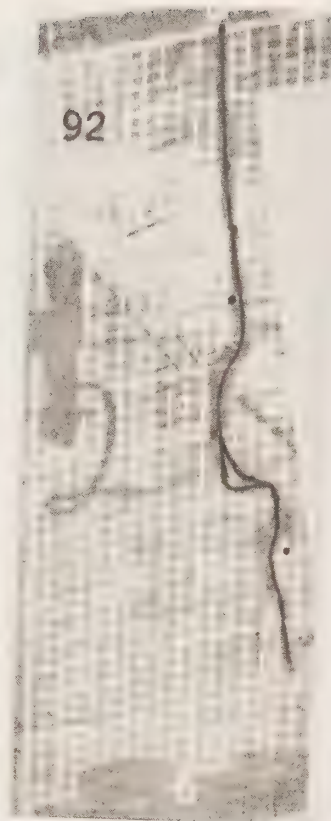
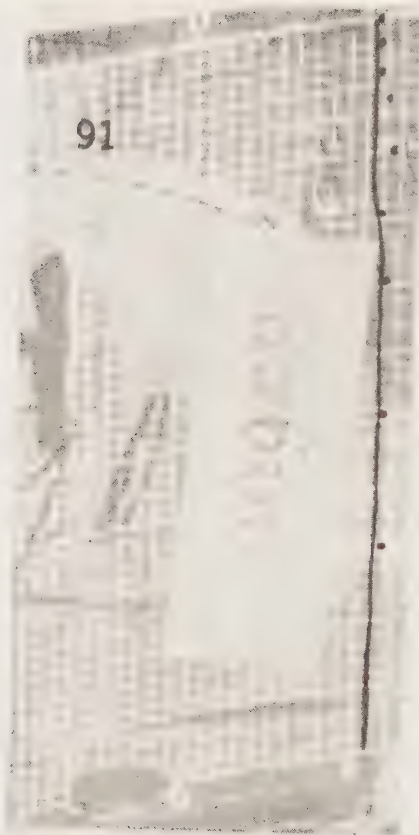












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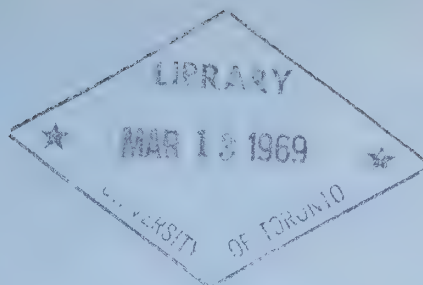




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IN THE 1968 DATA RECORD SERIES

| NO. | TITLE  | CODC REFERENCE         |
|-----|--|------------------------|
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| 2   | Ocean Weather Station "P"                                    | 02-67-001<br>02-67-002 |
| 3   | Gulf of St. Lawrence   | 10-67-008              |
| 4   | Hudson Bay, Hudson Strait and Arctic                         | 02-67-001<br>02-67-013 |
| 5   | Ocean Weather Station "P"                                    | 02-67-003<br>02-67-004 |





DEPARTMENT OF ENERGY, MINES AND RESOURCES  
Ottawa

## SCOTIAN SHELF

January 20 to January 27, 1968

No. 7

1968 Data Record Series

Canadian Oceanographic Data Centre

Programmed by the  
Canadian Committee on Oceanography

1968

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**Canadian Oceanographic Data Centre**

**615 Booth St., Ottawa, Canada**

**Programmed by the Canadian Committee on Oceanography**



DEPARTMENT OF ENERGY, MINES AND RESOURCES

and

FISHERIES RESEARCH BOARD OF CANADA

SCOTIAN SHELF

|                           |   |
|---------------------------|---|
| Ship:                     | RV "E.E. Prince"                          |
| Local cruise designation: | BIO 0367                                  |
| Cruise period:            | January 20 - January 27, 1967             |
| Scientist-in-Charge:      | D. Dobson                                 |
| Observers:                | F.D. Ewing<br>W.J. MacNeil<br>D.P. Krauel |

ATLANTIC OCEANOGRAPHIC LABORATORY

and

MARINE ECOLOGY LABORATORY

Bedford Institute of Oceanography, Dartmouth, N.S.



## SECTION I

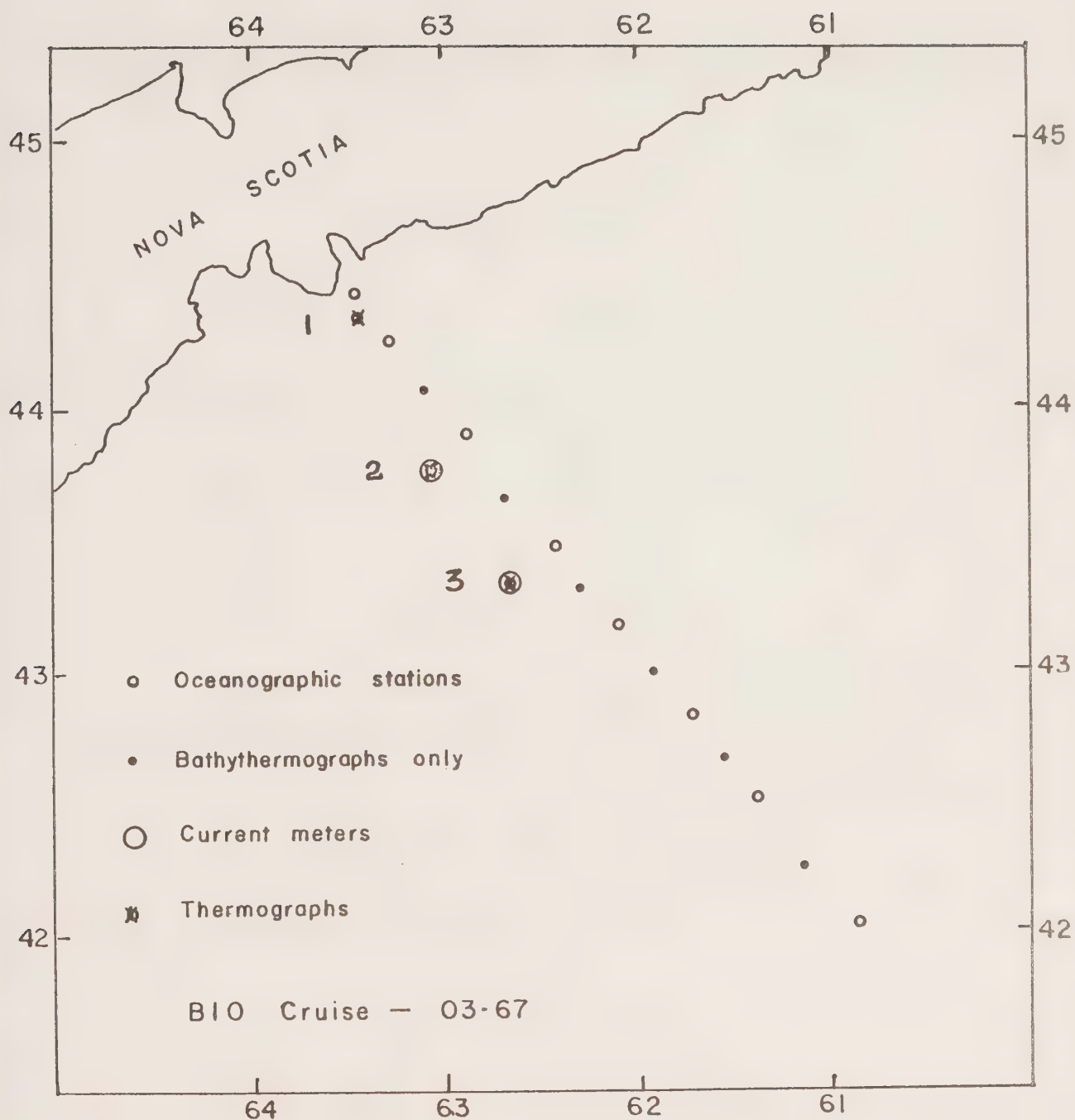
Description of data collection procedures















## INTRODUCTION

The purpose of this cruise was to initiate long-term recording of currents and temperatures at three locations on the Scotian Shelf and to monitor temperature and salinity at eight stations on the Halifax section.

## EXTRACT OF CRUISE LOG

Departed Halifax, N.S.                      January 20, 1967

Completed moorings and occupied five oceanographic stations when work had to be abandoned due to high winds and a heavy roll.

Returned Halifax, N.S.                      January 22, 1967

Departed Halifax, N.S.                      January 26, 1967

Returned Halifax, N.S.                      January 27, 1967

## OBSERVATIONAL PROCEDURES

Twelve oceanographic stations were occupied employing Knudsen water bottles with Richter & Wiese and Yoshino thermometers. Samples were obtained at standard depths, two protected thermometers on each bottle and one unprotected on the bottom bottle.

Surface samples were obtained in a thermometer bucket employing a thermometer graduated in 0.5 C intervals.

The three conventional moorings employed Braincon current meters and histogram thermographs.

## LABORATORY PROCEDURES

Salinity samples were returned to the Bedford Institute for analyses on Auto-Lab. Inductively Coupled Salinometer Model 601 MK III.

Temperatures, depths, and meteorological data were corrected and checked.

BATHYTHERMOGRAPH OBSERVATIONS

A total of 19 bathythermographs were taken to a maximum depth of 275 meters. These were processed and are on file at the Canadian Oceanographic Data Centre.

PERSONNELAt Sea:

|              |                         |
|--------------|-------------------------|
| D. Dobson    | Scientist - in - Charge |
| F.D. Ewing   |                         |
| W.J. MacNeil |                         |
| D.P. Krauel  |                         |

Data Analyses:

|                         |             |
|-------------------------|-------------|
| Compilation of data     | D.P. Krauel |
| Salinity determinations | W. Young    |

## SECTION II

Description of the machine-generated data record



## INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch-cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. When interpolations are carried out, additional derived values are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an "**estimate of precision**" for each observed variable selected for interpolation at standard oceanographic depths. The precision depends on the instrument and/or technique used to determine the variable. A standard precision stated as a **standard deviation** ( $\sigma$ ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under "GENERAL INFORMATION" in section III of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e.,  $1\sigma = A$ ,  $2\sigma = B$ , etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an "**interpolation error estimate**" derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of the interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable (T, S,  $O_2$ ) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the "**measurement error estimate**" comprises the "**combined measurement and interpolation error estimate**". It is expressed as a multiple of the standard deviation of measurement ( $\sigma$ ) under normal routine field conditions by:



## CANADIAN OCEANOGRAPHIC DATA CENTRE

| 1 IDENT. CODE |               | 2 LATITUDE (N = +) |             | 3 LONGITUDE (W = +) |             | 5 DATE         |             | 6 TIME            |             | 7 DEPTH   |             | 9 NO.  |             | VESSEL                |             |
|---------------|---------------|--------------------|-------------|---------------------|-------------|----------------|-------------|-------------------|-------------|-----------|-------------|--------|-------------|-----------------------|-------------|
| COUNTRY INST. |               | DEG. MIN. 1/10     |             | DEG. MIN. 1/10      |             | YEAR MONTH DAY |             | HOURS G.M.T. 1/10 |             | TO BOTTOM |             | OBS'D. |             | ENTERED BY CHECKED BY |             |
| 1             | 8             | 1                  | 2           | 3                   | 4           | 5              | 6           | 7                 | 8           | 9         | 10          | 11     | 12          | 13                    | 14          |
| 10            | WATER         | 11                 | WAVES       | 12                  | WAVES       | 13             | WIND        | 14                | BAROMETER   | 15        | AIR TEMP.   | 16     | WET BULB    | 17                    | W.W. CODE   |
| 20            | COLOUR TRANS. | 21                 | DW DP PW HW | 22                  | DW DP PW HW | 23             | DW DP PW HW | 24                | DW DP PW HW | 25        | DW DP PW HW | 26     | DW DP PW HW | 27                    | DW DP PW HW |
| 30            | 38            | 39                 | 40          | 41                  | 42          | 43             | 44          | 45                | 46          | 47        | 48          | 49     | 50          | 51                    | 52          |
| 60            | 68            | 69                 | 70          | 71                  | 72          | 73             | 74          | 75                | 76          | 77        | 78          | 79     | 80          | 81                    | 82          |
| 90            | 98            | 99                 | 100         | 101                 | 102         | 103            | 104         | 105               | 106         | 107       | 108         | 109    | 110         | 111                   | 112         |
| 120           | 128           | 129                | 130         | 131                 | 132         | 133            | 134         | 135               | 136         | 137       | 138         | 139    | 140         | 141                   | 142         |
| 150           | 158           | 159                | 160         | 161                 | 162         | 163            | 164         | 165               | 166         | 167       | 168         | 169    | 170         | 171                   | 172         |
| 180           | 188           | 189                | 190         | 191                 | 192         | 193            | 194         | 195               | 196         | 197       | 198         | 199    | 200         | 201                   | 202         |
| 210           | 218           | 219                | 220         | 221                 | 222         | 223            | 224         | 225               | 226         | 227       | 228         | 229    | 230         | 231                   | 232         |
| 240           | 248           | 249                | 250         | 251                 | 252         | 253            | 254         | 255               | 256         | 257       | 258         | 259    | 260         | 261                   | 262         |
| 270           | 278           | 279                | 280         | 281                 | 282         | 283            | 284         | 285               | 286         | 287       | 288         | 289    | 290         | 291                   | 292         |
| 300           | 308           | 309                | 310         | 311                 | 312         | 313            | 314         | 315               | 316         | 317       | 318         | 319    | 320         | 321                   | 322         |
| 330           | 338           | 339                | 340         | 341                 | 342         | 343            | 344         | 345               | 346         | 347       | 348         | 349    | 350         | 351                   | 352         |
| 360           | 368           | 369                | 370         | 371                 | 372         | 373            | 374         | 375               | 376         | 377       | 378         | 379    | 380         | 381                   | 382         |
| 390           | 398           | 399                | 400         | 401                 | 402         | 403            | 404         | 405               | 406         | 407       | 408         | 409    | 410         | 411                   | 412         |
| 420           | 428           | 429                | 430         | 431                 | 432         | 433            | 434         | 435               | 436         | 437       | 438         | 439    | 440         | 441                   | 442         |
| 450           | 458           | 459                | 460         | 461                 | 462         | 463            | 464         | 465               | 466         | 467       | 468         | 469    | 470         | 471                   | 472         |
| 480           | 488           | 489                | 490         | 491                 | 492         | 493            | 494         | 495               | 496         | 497       | 498         | 499    | 500         | 501                   | 502         |
| 510           | 518           | 519                | 520         | 521                 | 522         | 523            | 524         | 525               | 526         | 527       | 528         | 529    | 530         | 531                   | 532         |
| 540           | 548           | 549                | 550         | 551                 | 552         | 553            | 554         | 555               | 556         | 557       | 558         | 559    | 560         | 561                   | 562         |
| 570           | 578           | 579                | 580         | 581                 | 582         | 583            | 584         | 585               | 586         | 587       | 588         | 589    | 590         | 591                   | 592         |
| 600           | 608           | 609                | 610         | 611                 | 612         | 613            | 614         | 615               | 616         | 617       | 618         | 619    | 620         | 621                   | 622         |
| 630           | 638           | 639                | 640         | 641                 | 642         | 643            | 644         | 645               | 646         | 647       | 648         | 649    | 650         | 651                   | 652         |
| 660           | 668           | 669                | 670         | 671                 | 672         | 673            | 674         | 675               | 676         | 677       | 678         | 679    | 680         | 681                   | 682         |
| 690           | 698           | 699                | 700         | 701                 | 702         | 703            | 704         | 705               | 706         | 707       | 708         | 709    | 710         | 711                   | 712         |
| 720           | 728           | 729                | 730         | 731                 | 732         | 733            | 734         | 735               | 736         | 737       | 738         | 739    | 740         | 741                   | 742         |
| 750           | 758           | 759                | 760         | 761                 | 762         | 763            | 764         | 765               | 766         | 767       | 768         | 769    | 770         | 771                   | 772         |
| 780           | 788           | 789                | 790         | 791                 | 792         | 793            | 794         |                   |             |           |             |        |             |                       |             |

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left( \frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

$\sigma$  = Standard deviation of the combined error estimates at standard oceanographic depth,

$\Delta V_i$  = the interpolation error estimate of variable "V" at standard oceanographic depth =  $1/3 (V_{i_1} - V_{i_2})$

$\gamma$  = Interpolation polynomial coefficient.

$Z_j$  = Observed depth.

$Z_i$  = Standard oceanographic depth, such that:  $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction  $\frac{\sigma_i}{\sigma}$ , if  $\geq 2$ , is reported in this Data Record following the interpolated variable. It represents the **combined measurement and interpolation error estimate**. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the **interpolation error estimate** is given only when  $\frac{\sigma_i}{\sigma} \geq 2$  (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

## EXPLANATION OF DATA RECORD HEADINGS

## MASTER HEADINGS

|              |           |               |              |              |          |
|--------------|-----------|---------------|--------------|--------------|----------|
| (1) C-REF-NO | (6) YR    | (11) DEPTH    | (16) WAVES 1 | (21) AIR T   | (26) VIS |
| (2) CONS. NO | (7) MONTH | (12) MXSAMPD  | (17) WAVES 2 | (22) WET B   | (27) STN |
| (3) LAT      | (8) DAY   | (13) NO. DPTH | (18) WND-DIR | (23) ww-CODE |          |
| (4) LON      | (9) HR    | (14) W-COLOR  | (19) WND-FCE | (24) CLD-TPE |          |
| (5) MARSD SQ | (10) C/I  | (15) W-TRNSP  | (20) BARO    | (25) CLD-AMT | (28) HW  |

## (1) CRUISE REFERENCE NUMBER:

Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the CRN was a number designated by CODC.

## (2) CONSECUTIVE NUMBER:

Indicates the chronological order in which the stations were occupied.

## (3) LATITUDE:

Indicate the position of the platform at the time of observation.

## (4) LONGITUDE:

## (5) MARSDEN SQUARE: Designates the geographic area code of the observation (see Marsden square chart).

## (6) YEAR:

## (7) MONTH:

## (8) DAY:

## (9) HOUR:

The time (Greenwich Mean Time) at which the surface environmental data were recorded. It is reported to tenths of hours (Table 1).

If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.

## (10) COUNTRY/INSTITUTE:

The International Geophysical Year (IGY) Country Code/Institute Code - see Table 11.

## (11) DEPTH:

The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section III. Charted depths are preceded by the letter "C".

## (12) MAXIMUM

SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).

00 m - 50 m = 00

51 m - 150 m = 01

151 m - 250 m = 02

etc.

- (13) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch-cards).
- (14) WATER COLOUR: A code based on the percentage of yellow (see table 2 and Note under FIELD "15" below).
- (15) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section III of the data record will state which method was used.
- (16) WAVES 1  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the **wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (17) WAVES 2  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the predominant **non-wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (18) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing (wind direction 990 means:—wind variable or direction unknown).
- (19) WIND FORCE (WND-FCF): Beaufort notation (See Table 6).
- WIND SPEED (WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section III.
- (20) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section III of the data record will state the type of instrument used.
- (21) AIR TEMPERATURE: In degrees Celsius.
- (22) WET BULB: In degrees Celsius.
- (23) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (24) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (25) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (26) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (27) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (28) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.



## OBSERVED DATA HEADINGS

|           |            |          |             |             |              |
|-----------|------------|----------|-------------|-------------|--------------|
| (1) GMT   | (2) DEPTH  | (3) TEMP | (4) SAL     | (5) OXYGEN  | (6) SGMT     |
| (7) SOUND | (8) $PO_4$ | (9) -P-  | (10) $NO_2$ | (11) $NO_3$ | (12) $SiO_2$ |
|           |            |          |             | (13) pH.    |              |

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

- (1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.
- When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.
- (2) DEPTH: The depth in metres at the reversal time of deepest cast.
- (3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of section III. An alphabetical character following the temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.
- (4) SALINITY: Salinity as defined by:  $S = 0.03 + 1.805 C1\%$ , reported in:
- 1/100 parts per 1000, or
  - 1/1000 parts per 1000.
- In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3).
- In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.
- (5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).
- (6) SIGMA-T: The specific gravity anomaly as defined by:  $(\text{Specific gravity} - 1) \times 10^3$  (e.g.,  $\sigma_t$  reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).
- (7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.



|                       |   |
|-----------------------|---|
| (8) PO <sub>4</sub>   | Phosphate-Phosphorus reported to hundredths of microgram-atoms per litre.                               |
| (9) -P-               | Total Phosphorus reported to hundredths of microgram-atoms per litre.                                   |
| (10) NO <sub>2</sub>  | Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre — No dissolved nitrogen included — |
| (11) NO <sub>3</sub>  | Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.                                       |
| (12) SiO <sub>2</sub> | Silicate-Silicon reported in whole microgram-atoms per litre.   |
| (13) pH               | The pH value.   |

NOTE: "TRC" (trace) is reported when a chemical entry has a value less than the standard deviation of measurement for that particular variable.

#### INTERPOLATED DATA HEADINGS

|             |            |          |            |          |           |
|-------------|------------|----------|------------|----------|-----------|
| (1) DEPTH   | (2) TEMP   | (3) SAL  | (4) OXYGEN | (5) SGMT | (6) SOUND |
| (7) DELTA-D | (8) POT-EN | (9) SVA. |            |          |           |

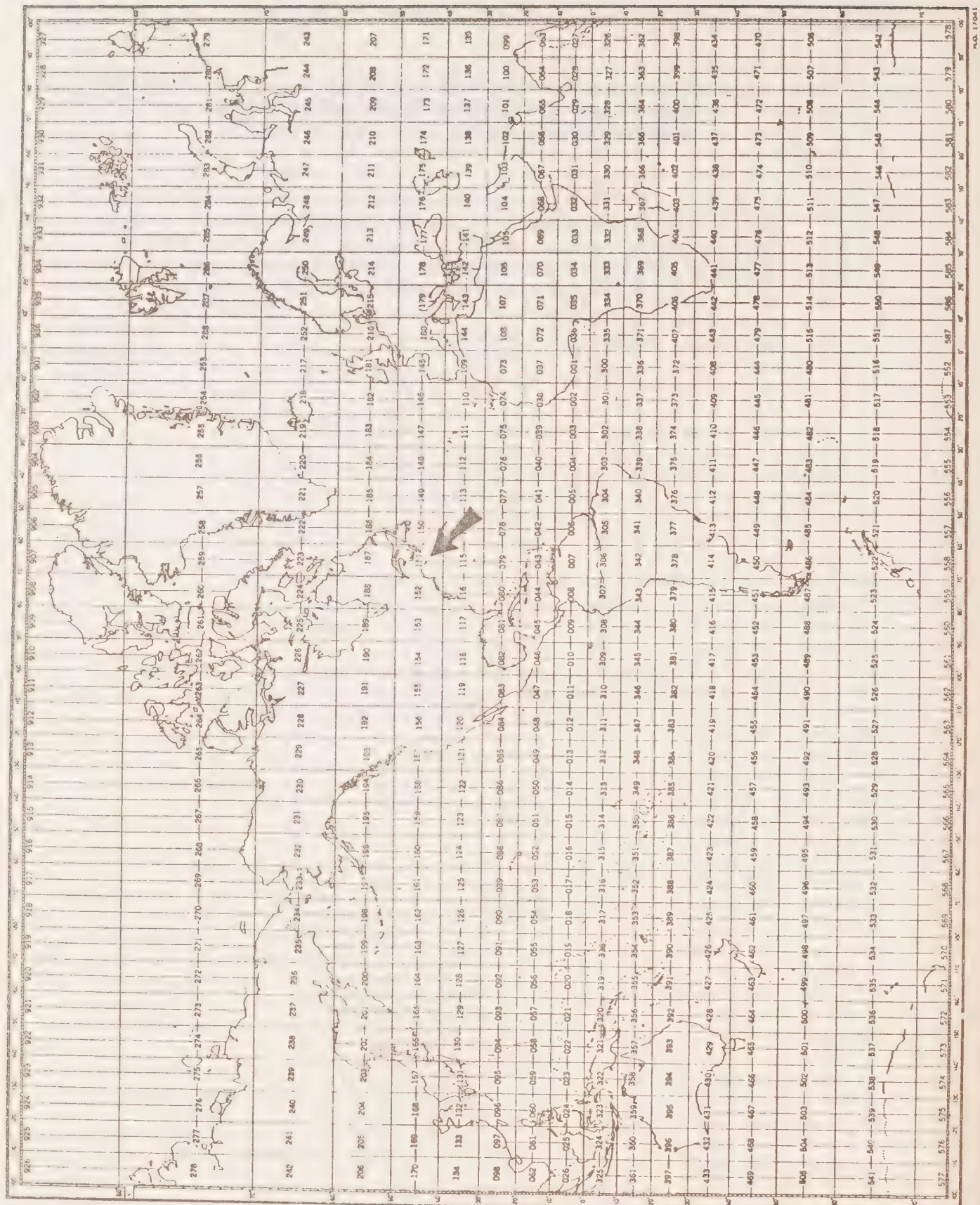
- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY:
- A. The reported salinity values are measured to three decimal places.
    - (i) the interpolation error estimate is less than twice the standard deviation of measurement
      - the interpolated value is reported to three decimal places (e.g., 30.139).
    - (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
      - the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23 C).
  - B. The reported salinity values are measured to two decimal places and followed by the measurement error estimate.
    - the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59 B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

- (5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.
- (6) SOUND  
VELOCITY: Computed from temperature, salinity and total pressure values at standard oceanographic depth, using Wilson's formula (1960).
- (7) DELTA-D: The geo-potential anomaly as defined by:
- $$\Delta D = \int_0^p \delta dp$$
- $\Delta D$  is expressed in dynamic metres ( $10^5$  ergs/gram) and recorded to three decimal places (e.g., 2.345 dyn. metres).
- (8) POTENTIAL  
ENERGY  
ANOMALY: The Potential energy anomaly  $\chi$  as defined by:
- $$\chi = \frac{1}{g} \int_0^p p \delta dp = \int_0^z \rho p \delta dz$$
- $\chi$  is expressed in units of  $10^8$  ergs/cm<sup>2</sup> and recorded to two decimal places (e.g., 116.44).
- (9) SPECIFIC  
VOLUME  
ANOMALY: The specific volume anomaly as defined by:
- $$\delta = \alpha - \alpha_{35.0.P}$$
- $\delta$  is expressed in ml/gr, and conventionally reported as  $10^5 \delta$ , to one decimal place (i.e.,  $\delta$  reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).

## SPECIAL CHARACTERS

‡ (Record mark): is used to indicate inconsistencies which are printed in an area below the "Observed Data". A corresponding record mark at the extreme left hand side indicates the level at which the inconsistency occurs

\* (Asterisk): this character may occur in the **interpolated** portion of the data record. It is printed at the extreme left hand side of the page, when three or more standard depth levels fall within any one **observed depth interval**. The **third**, and all consequent levels are preceded by the asterisk to indicate that more than **two** machine interpolations were carried out, utilizing the same set of interpolation parabolas. The asterisk will also appear when the last standard depth is an extrapolation and there are at least two interpolations between the last two observed depths.



MARS DEN SQUARE CHART



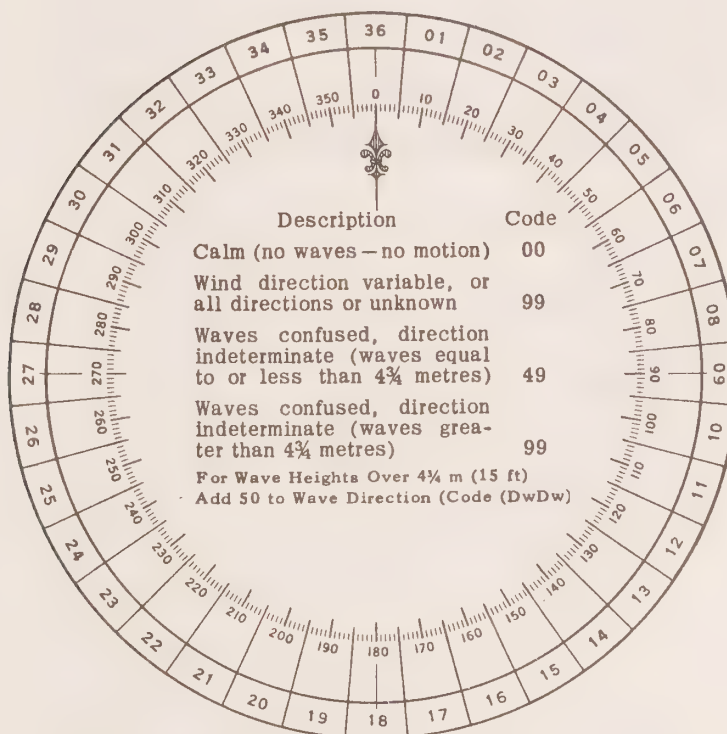
**Table 1**  
**CONVERSION**  
**MINUTES TO  $\frac{1}{10}$  HRS.**

| Minutes | Tenths Hrs.  |
|---------|--------------|
| 00-03   | 0            |
| 04-08   | 1            |
| 09-15   | 2            |
| 16-20   | 3            |
| 21-27   | 4            |
| 28-32   | 5            |
| 33-39   | 6            |
| 40-44   | 7            |
| 45-51   | 8            |
| 52-56   | 9            |
| 57-59   | 0 (next HR.) |

**Table 2**  
**WATER COLOR CODE**  
**Based on Percentage Yellow**

| Code: | Description     |
|-------|-----------------|
| 00    | Deep Blue       |
| 10    | Blue            |
| 20    | Greenish Blue   |
| 30    | Bluish Green    |
| 40    | Green           |
| 50    | Light Green     |
| 60    | Yellowish Green |
| 70    | Yellow Green    |
| 80    | Green Yellow    |
| 90    | Greenish Yellow |
| 99    | Yellow          |

**Table 3. DIRECTION CODE (dd)**



**NOTE:**

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.



**Table 4. PERIOD OF THE WAVES ( $P_w$ )**  
(Measure to the Nearest Second)

| Code: | Period in Seconds: | Code: | Period in Seconds:             |
|-------|--------------------|-------|--------------------------------|
| 2     | 5 sec. or less     | 8     | 16 or 17 sec.                  |
| 3     | 6 or 7 sec.        | 9     | 18 or 19 sec.                  |
| 4     | 8 or 9 sec.        | 0     | 20 or 21 sec.                  |
| 5     | 10 or 11 sec.      | 1     | Over 21 sec.                   |
| 6     | 12 or 13 sec.      | X     | Calm, or period not determined |
| 7     | 14 or 15 sec.      |       |                                |

**Table 5. HEIGHT OF THE WAVES ( $H_w$ )**

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft); 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft); 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.

| Code |                       |                          | Code                    |
|------|-----------------------|--------------------------|-------------------------|
| 0    | Less than ¼ m (1 ft)  | Add<br>50<br>to<br>Dw Dw | 0 5 m (16 ft)           |
| 1    | ½ m ( 1½ ft)          |                          | 1 5½ m (17½ ft)         |
| 2    | 1 m ( 3 ft)           |                          | 2 6 m (19 ft)           |
| 3    | 1½ m ( 5 ft)          |                          | 3 6½ m (21 ft)          |
| 4    | 2 m ( 6½ ft)          |                          | 4 7 m (22½ ft)          |
| 5    | 2½ m ( 8 ft)          |                          | 5 7½ m (24 ft)          |
| 6    | 3 m ( 9½ ft)          |                          | 6 8 m (25½ ft)          |
| 7    | 3½ m (11 ft)          |                          | 7 8½ m (27 ft)          |
| 8    | 4 m (13 ft)           |                          | 8 9 m (29 ft)           |
| 9    | 4½ m (14 ft)          |                          | 9 9½ m (30½ ft) or more |
| x    | Height not determined |                          |                         |

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

| Code | Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully   | Description     |
|------|---|-----------------|
| 00   | Sea like a mirror   | Calm            |
| 01   | Ripples with the appearance of scales are formed, but without foam crests.  | Light Air       |
| 02   | Small wavelets; crests have a glassy appearance and do not break.   | Light Breeze    |
| 03   | Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.   | Gentle Breeze   |
| 04   | Small waves, becoming longer; fairly frequent white horses.   | Moderate breeze |
| 05   | Moderate waves; many white horses are formed (chance of some spray)   | Fresh Breeze    |
| 06   | Large waves; white foam crests everywhere (probably some spray)   | Strong Breeze   |
| 07   | Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.  | Near Gale       |
| 08   | Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.   | Gale            |
| 09   | High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.  | Strong Gale     |
| 10   | Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.          | Storm           |
| 11   | Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected. | Violent Storm   |
| 12   | Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.  | Hurricane       |

Table 7. PRESENT WEATHER

W.W. CODE

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

| Code figure<br>ww                    |    |   |   |
|--------------------------------------|----|---|---|
| No meteors<br>except<br>photometeors | 00 | Cloud development not observed or not observable  |   |
|                                      | 01 | Clouds generally dissolving or becoming less developed  |   |
|                                      | 02 | State of sky on the whole unchanged   |   |
|                                      | 03 | Clouds generally forming or developing  |   |
| Haze, dust, sand or smoke            | 04 | Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes   |   |
|                                      | 05 | Haze  |   |
|                                      | 06 | Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation  |   |
|                                      | 07 | Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen |   |
|                                      | 08 | Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm          |   |
|                                      | 09 | Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour   |   |
|                                      | 10 | Mist  |   |
|                                      | 11 | { Patches of { shallow fog or ice fog at the station, whether on land or sea, not   |   |
|                                      | 12 |   | More of less { deeper than about 2 metres on continuous { land or 10 metres at sea  |
|                                      |    | 13  | Lightning visible, no thunder heard   |
|                                      |    | 14  | Precipitation within sight, not reaching the ground or the surface of the sea   |
|                                      |    | 15  | Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station |
|                                      |    | 16  | Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station                                    |
|                                      |    | 17  | Thunderstorm, but no precepitation at the time of observation   |
|                                      |    | 18  | Squalls { at or within sight of the station during the preceding hour   |
|                                      |    | 19  | Funnel clouds { or at the time of observation   |

|              |    |   |   |
|--------------|----|---|---|
| ww = 20 - 29 | 20 | Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation   | not falling as shower(s)                                    |
|              | 21 | Drizzle (not freezing) or snow grains   |   |
|              | 22 | Rain (not freezing)   |   |
|              | 23 | Snow  |   |
|              | 24 | Rain and snow or ice pellets, type (a)  |   |
|              | 25 | Freezing drizzle or freezing rain   |   |
|              | 26 | Shower(s) of rain   |   |
|              | 27 | Shower(s) of snow, or of rain and snow  |   |
|              | 28 | Shower(s) of hail, or of rain and hail  |   |
|              | 29 | Fog or ice fog  |   |
|              | 29 | Thunderstorm (with or without precipitation)  |   |
| ww = 30 - 39 | 30 | Duststorm, sandstorm, drifting or blowing snow  |   |
|              | 30 | { Slight or moderate duststorm or sandstorm   | -has decreased during the preceding hour                    |
|              | 31 |   | -no appreciable change during the preceding hour            |
|              | 32 | { Severe duststorm or sandstorm   | -has begun or has increased during the preceding hour       |
|              | 33 |   | -has decreased during the preceding hour                    |
|              | 34 | {   | -no appreciable change during the preceding hour            |
|              | 35 |   | -has begun or has increased during the preceding hour       |
|              | 36 | Slight or moderate blowing snow   | generally low (below eye level)                             |
|              | 37 | Heavy drifting snow   |   |
|              | 38 | Slight or moderate blowing snow   | generally high (above eye level)                            |
|              | 39 | Heavy blowing snow  |   |
| ww = 40 - 49 | 40 | Fog or ice fog at the time of observation   |   |
|              | 40 | Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer |   |
|              | 41 | Fog or ice fog in patches   |   |
|              | 42 | Fog or ice fog, sky visible   | { has become thinner during the preceding hour              |
|              | 43 | Fog or ice fog, sky invisible   |   |
|              | 44 | Fog or ice fog, sky visible   | { no appreciable change during the preceding hour           |
|              | 45 | Fog or ice fog, sky invisible   |   |
|              | 46 | Fog or ice fog, sky visible   | { has begun or has become thicker during the preceding hour |
|              | 47 | Fog or ice fog, sky invisible   |   |
|              | 48 | Fog, depositing rime, sky visible   |   |
|              | 49 | Fog, depositing rime, sky invisible   |   |

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

## ww = 50 - 59 Drizzle

|    |  |  |
|----|--|--|
| 50 | Drizzle, not freezing, intermittent          | } slight at time of observation        |
| 51 | Drizzle, not freezing, continuous            |  |
| 52 | Drizzle, not freezing, intermittent          | } moderate at time of observation      |
| 53 | Drizzle, not freezing, continuous            |  |
| 54 | Drizzle, not freezing, intermittent          | } heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous            |  |
| 56 | Drizzle, freezing, slight                    |  |
| 57 | Drizzle, freezing, moderate or heavy (dense) |  |
| 58 | Drizzle and rain, slight                     |  |
| 59 | Drizzle and rain, moderate or heavy          |  |

## ww = 60 - 69 Rain

|    |   |                                   |
|----|---|-----------------------------------|
| 60 | Rain, not freezing, intermittent            | } slight at time of observation   |
| 61 | Rain, not freezing, continuous              |                                   |
| 62 | Rain, not freezing, intermittent            | } moderate at time of observation |
| 63 | Rain, not freezing, continuous              |                                   |
| 64 | Rain, not freezing, intermittent            | } heavy at time of observation    |
| 65 | Rain, not freezing, continuous              |                                   |
| 66 | Rain, freezing, slight                      |                                   |
| 67 | Rain, freezing, moderate or heavy           |                                   |
| 68 | Rain or drizzle and snow, slight            |                                   |
| 69 | Rain or drizzle and snow, moderate or heavy |                                   |

## 70 - 79 Solid precipitation not in showers

|    |   |                                   |
|----|---|-----------------------------------|
| ww |   |                                   |
| 70 | Intermittent fall of snow flakes                      | } slight at time of observation   |
| 71 | Continuous fall of snow flakes                        |                                   |
| 72 | Intermittent fall of snow flakes                      | } moderate at time of observation |
| 73 | Continuous fall of snow flakes                        |                                   |
| 74 | Intermittent fall of snow flakes                      | } heavy at time of observation    |
| 75 | Continuous fall of snow flakes                        |                                   |
| 76 | Ice prisms (with or without fog)                      |                                   |
| 77 | Snow grains (with or without fog)                     |                                   |
| 78 | Isolated starlike snow crystals (with or without fog) |                                   |
| 79 | Ice pellets, type (a)                                 |                                   |

## ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

|    |  |   |
|----|--|---|
| 80 | Rain shower(s), slight   |   |
| 81 | Rain shower(s), moderate or heavy  |   |
| 82 | Rain shower(s), violent  |   |
| 83 | Shower(s) of rain and snow mixed, slight   |   |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy  |   |
| 85 | Snow shower(s), slight   |   |
| 86 | Snow shower(s), moderate or heavy  |   |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain or rain and snow mixed  | - slight  |
| 88 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder      | - moderate or heavy   |
| 89 | Slight rain at time of observation   | - slight  |
| 90 | Moderate or heavy rain at time of observation  | - moderate or heavy   |
| 91 | Slight snow, or rain and snow mixed or hail at time of observation                               | } thunderstorm during the preceding hour but not at time of observation |
| 92 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation                    |   |
| 93 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | } thunderstorm at time of observation                                   |
| 94 | Thunderstorm, slight or moderate, with hail at time of observation                               |   |
| 95 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation              | } thunderstorm at time of observation                                   |
| 96 | Thunderstorm, combined with duststorm or sandstorm at time of observation                        |   |
| 97 | Thunderstorm, heavy, with hail at time of observation  |   |
| 98 |  |   |
| 99 |  |   |

## PRECIPITATION ON STATION AT TIME OF OBSERVATION



Table 8. CLOUD TYPE CODE

| Code | Cloud Type   | Code | Cloud Type                 |
|------|--|------|----------------------------|
| 0    | Cirrus . . . . . Ci  | 5    | Nimbostratus . . . . . Ns  |
| 1    | Cirrocumulus . . . . . Cc  | 6    | Stratocumulus . . . . . Sc |
| 2    | Cirrostratus . . . . . Cs  | 7    | Stratus . . . . . St       |
| 3    | Alto cumulus . . . . . Ac  | 8    | Cumulus . . . . . Cu       |
| 4    | Altostratus . . . . . As   | 9    | Cumulonimbus . . . . . Cb  |
| X    | Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena |      |                            |

Table 9. CLOUD AMOUNT CODE

| Code | Cloud Cover                     | Code | Cloud Cover   |
|------|---------------------------------|------|---|
| 0    | 0                               | 6    | 6 oktas   |
| 1    | 1 okta or less,<br>but not zero | 7    | 7 oktas or more,<br>but not 8 oktas                     |
| 2    | 2 oktas                         | 8    | 8 oktas   |
| 3    | 3 oktas                         | 9    | Sky obscured, or<br>cloud amount cannot<br>be estimated |
| 4    | 4 oktas                         |      |   |
| 5    | 5 oktas                         |      |   |

Note: 1 okta =  $\frac{1}{8}$  of the sky covered

Table 10. VISIBILITY

| Code | Estimate of hor. Visibility                              |
|------|--|
| 0    | Less than 50 metres (less than 55 yards)                 |
| 1    | 50-200 metres (approx. 55-220 yards)                     |
| 2    | 200-500 metres (approx. 220-550 yards)                   |
| 3    | 500-1,000 metres (approx. 550 yards- $\frac{3}{4}$ n.m.) |
| 4    | 1-2 km (approx. $\frac{5}{8}$ -1 n.m.)                   |
| 5    | 2-4 km (approx. 1-2 n.m.)                                |
| 6    | 4-10 km (approx. 2-6 n.m.)                               |
| 7    | 10-20 km (approx. 6-12 n.m.)                             |
| 8    | 20-50 km (approx. 12-30 n.m.)                            |
| 9    | 50 km or more (30 n.m. or more)                          |

Note: n.m. = nautical mile



TABLE 11. INSTITUTE CODE

| Code | Institute   |
|------|---|
| 01   | Marine Ecology Laboratory, Bedford Institute                |
| 02   | Pacific Oceanographic Group                                 |
| 03   | Biological Station, St. Andrews, N.B.                       |
| 04   | Arctic Biological Station, Ste. Anne de Bellevue, P.Q.      |
| 05   | Biological Station, St. John's Nfld.                        |
| 06   | Station de Biologie Marine, Grande Riviere, P.Q.            |
| 07   | Marine Sciences Branch, Central Region                      |
| 08   | Defence Research Establishment, Atlantic                    |
| 09   | Defence Research Establishment, Pacific                     |
| 10   | Atlantic Oceanographic Laboratory, Bedford Institute        |
| 11   | Polar Continental Shelf Project                             |
| 12   | Great Lakes Institute                                       |
| 13   | Institute of Oceanography, University of British Columbia   |
| 14   | Institute of Oceanography, Dalhousie University             |
| 15   | Marine Sciences Branch, Pacific Region                      |
| 16   | Department of Transport                                     |
| 17   | Marine Sciences Centre, McGill University                   |
| 18   | Canadian Forces Maritime Command, East Coast                |
| 19   | Canadian Forces Maritime Command, West Coast                |
| 20   | Ontario Water Resources Commission                          |
| 21   | Dept. of National Health and Welfare                        |
| 22   | Inland Waters Branch, Dept. of Energy, Mines and Resources. |



### SECTION III

Serial oceanographic data



GENERAL INFORMATION

|   |                                   |
|---|-----------------------------------|
| <u>Institute:</u>                         | Atlantic Oceanographic Laboratory |
| <u>Observation platform:</u>              | RV "E.E. Prince"                  |
| <u>Vessel's cruising speed:</u>           | 11 knots                          |
| <u>Total number of stations occupied:</u> | 12                                |
| <u>Anemometer height above sea level:</u> | 8 metres                          |
| <u>Barometer readings:</u>                | Aneroid Barometer (corrected)     |
| <u>Air temperature:</u>                   | Sling Psychrometer                |
| <u>Surface sea water temperature:</u>     | Reversing Thermometer             |

The following Standard Deviations were used to express both measurement and interpolation error estimates:

|              |       |
|--------------|-------|
| Temperature: | 0.02  |
| Salinity:    | 0.003 |





|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 90   | WAVES 1 2725 | AIR T      | VIS 6   |
| CONS. NO 001 | MONTH 1  | MXSAMPD 01 | WAVES 2 2912 | WET B      | STN 001 |
| LAT 43-222N  | DAY 20   | NO.DPTH 7  | WND-DIR 270  | WW-CODE 02 |         |
| LON 63-250W  | HR 20.8  | W-COLOR 35 | WND-SPC 16   | CLD-TPE 4  |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1027.0  | CLD-AMT 5  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | CXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 208 | 0000  | 0290 B  | 30937 |        | 2468 | 14567 |
| 208 | 0009  | 0234    | 30908 |        | 2470 | 14543 |
| 208 | 0018  | 0234    | 30899 |        | 2469 | 14545 |
| 208 | 0027  | 0234    | 30900 |        | 2469 | 14546 |
| 208 | 0045  | 0279    | 31238 |        | 2493 | 14573 |
| 208 | 0068  | 0328    | 31897 |        | 2541 | 14607 |
| 208 | 0083  | 0327    | 31969 |        | 2547 | 14610 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0290 B  | 30937  |        | 2468 | 14567 | 0000    | 00000  | 3272 |
| 0010  | 0233    | 30906  |        | 2470 | 14543 | 0033    | 00002  | 3254 |
| 0020  | 0233    | 30894  |        | 2469 | 14545 | 0066    | 00007  | 3264 |
| 0030  | 0240    | 3094 B |        | 2472 | 14549 | 0098    | 00015  | 3236 |
| 0050  | 0293    | 3140 I |        | 2504 | 14582 | 0160    | 00040  | 2925 |
| 0075  | 0326    | 3188 I |        | 2540 | 14607 | 0230    | 00084  | 2588 |

|              |          |            |              |             |         |
|--------------|----------|------------|--------------|-------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 263  | WAVES 1 1412 | AIR T 00.0  | VIS 7   |
| CONS. NO 002 | MONTH 1  | MXSAMPD 03 | WAVES 2 XX   | WET B -00.9 | STN 002 |
| LAT 43-450N  | DAY 21   | NO.DPTH 11 | WND-DIR 140  | WW-CODE 02  |         |
| LON 63-020W  | HR 15.8  | W-COLOR 21 | WND-SPC 06   | CLD-TPE 8   |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1030.0  | CLD-AMT 8   | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 158 | 0000  | 0470 B  | 32234 |        | 2554 | 14661 |
| 158 | 0010  | 0442    | 32118 |        | 2548 | 14649 |
| 158 | 0020  | 0448    | 32135 |        | 2549 | 14654 |
| 158 | 0030  | 0458    | 32171 |        | 2550 | 14660 |
| 158 | 0050  | 0558    | 32818 |        | 2590 | 14713 |
| 158 | 0075  | 0474    | 33445 |        | 2649 | 14691 |
| 158 | 0100  | 0423    | 33675 |        | 2673 | 14677 |
| 158 | 0150  | 0570    | 34236 |        | 2701 | 14753 |
| 158 | 0199  | 0556    | 34325 |        | 2710 | 14757 |
| 158 | 0249  | 0620    | 34541 |        | 2719 | 14794 |
| 158 | 0259  | 0627    | 34542 |        | 2718 | 14798 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0470 B  | 32234  |        | 2554 | 14661 | 0000    | 00000  | 2452 |
| 0010  | 0442    | 32118  |        | 2548 | 14649 | 0025    | 00001  | 2513 |
| 0020  | 0448    | 32135  |        | 2549 | 14654 | 0050    | 00005  | 2506 |
| 0030  | 0458    | 32171  |        | 2550 | 14660 | 0075    | 00012  | 2490 |
| 0050  | 0558    | 32818  |        | 2590 | 14713 | 0122    | 00030  | 2113 |
| 0075  | 0474    | 33445  |        | 2649 | 14691 | 0168    | 00059  | 1553 |
| 0100  | 0423    | 33675  |        | 2673 | 14677 | 0204    | 00091  | 1330 |
| 0125  | 0486 I  | 3398 I |        | 2690 | 14711 | 0236    | 00127  | 1172 |
| 0150  | 0570    | 34236  |        | 2701 | 14753 | 0264    | 00167  | 1078 |
| 0175  | 0568 E  | 3430 H |        | 2706 | 14757 | 0291    | 00211  | 1029 |
| 0200  | 0557    | 34330  |        | 2710 | 14757 | 0316    | 00261  | 0998 |
| 0225  | 0587 C  | 3445 G |        | 2716 | 14775 | 0341    | 00314  | 0948 |
| 0250  | 0615 B  | 3452 D |        | 2718 | 14792 | 0364    | 00372  | 0935 |

C-REF-NO 002 YR 1967 DEPTH 86 WAVES 1 2112 AIR T 07.6 VIS 9  
 CONS. NO 003 MONTH 1 MXSAMPD 01 WAVES 2 1422 WET B 05.9 STN 003  
 LAT 43-190N DAY 21 NO.DPTH 7 WND-DIR 210 WW-CODE 01  
 LON 62-400W HR 20.1 W-COLOR 16 WND-SPC 13 CLD-TPE 8  
 MARSD SQ 151 C/I 1810 W-TRNSP BARO 1027.0 CLD-AMT 1 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 201 | 0000  | 0620 B  | 32912 |        | 2590 | 14731 |
| 201 | 0010  | 0583    | 32833 |        | 2589 | 14717 |
| 201 | 0020  | 0584    | 32838 |        | 2589 | 14719 |
| 201 | 0029  | 0594    | 32882 |        | 2591 | 14725 |
| 201 | 0049  | 0620    | 32971 |        | 2595 | 14740 |
| 201 | 0073  | 0650    | 33822 |        | 2658 | 14767 |
| 201 | 0083  | 0566    | 33832 |        | 2669 | 14735 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0620 B  | 32912  |        | 2590 | 14731 | 0000    | 00000  | 2109 |
| 0010  | 0583    | 32833  |        | 2589 | 14717 | 0021    | 00001  | 2126 |
| 0020  | 0584    | 32838  |        | 2589 | 14719 | 0043    | 00004  | 2124 |
| 0030  | 0595    | 3288 B |        | 2591 | 14726 | 0064    | 00010  | 2107 |
| 0050  | 0625    | 3301 D |        | 2597 | 14743 | 0106    | 00027  | 2047 |
| 0075  | 0613 H  | 3369 I |        | 2652 | 14751 | 0151    | 00055  | 1528 |

|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 2743 | WAVES 1 2222 | AIR T 12.0 | VIS     |
| CONS. NO 004 | MONTH 1  | MXSAMPD 05 | WAVES 2 XX   | WET B 11.0 | STN 004 |
| LAT 42-560N  | DAY 22   | NO.DPTH 12 | WND-DIR 220  | WW-CODE 01 |         |
| LON 61-240W  | HR 03.9  | W-COLOR 29 | WND-SPC 10   | CLD-TPE    |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1026.0  | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 039 | 0000  | 0520 B  | 32533 |        | 2572 | 14686 |
| 039 | 0010  | 0452    | 32450 |        | 2573 | 14658 |
| 039 | 0019  | 0446    | 32449 |        | 2574 | 14657 |
| 039 | 0029  | 0460    | 32458 |        | 2573 | 14664 |
| 039 | 0048  | 0531    | 32838 |        | 2595 | 14702 |
| 039 | 0072  | 0936    | 33846 |        | 2618 | 14877 |
| 039 | 0097  | 0766    | 34111 |        | 2665 | 14820 |
| 039 | 0145  | 0804    | 34736 |        | 2708 | 14851 |
| 039 | 0241  | 0760    | 34119 |        | 2666 | 14842 |
| 039 | 0290  | 0792    | 34726 |        | 2709 | 14870 |
| 039 | 0386  | 0692    | 34880 |        | 2736 | 14849 |
| 039 | 0483  | 0546    | 34904 |        | 2757 | 14807 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0520 B  | 32533  |        | 2572 | 14686 | 0000    | 00000  | 2280 |
| 0010  | 0452    | 32450  |        | 2573 | 14658 | 0023    | 00001  | 2273 |
| 0020  | 0447    | 32447  |        | 2573 | 14657 | 0046    | 00005  | 2270 |
| 0030  | 0460    | 32467  |        | 2574 | 14665 | 0069    | 00011  | 2269 |
| 0050  | 0569 F  | 3293 F |        | 2598 | 14719 | 0112    | 00028  | 2045 |
| 0075  | 0928 G  | 3390 E |        | 2623 | 14876 | 0161    | 00059  | 1811 |
| 0100  | 0762 C  | 3416 C |        | 2669 | 14820 | 0201    | 00094  | 1379 |
| 0125  | 0761 I  | 3450 I |        | 2696 | 14828 | 0232    | 00130  | 1124 |
| 0150  | 0802 B  | 3471 I |        | 2706 | 14851 | 0259    | 00169  | 1037 |
| 0175  | 0791 E  | 3455 I |        | 2695 | 14849 | 0287    | 00215  | 1142 |
| *0200 | 0780 F  | 3439 I |        | 2684 | 14846 | 0317    | 00273  | 1249 |
| *0225 | 0768 D  | 3423 I |        | 2673 | 14844 | 0350    | 00345  | 1357 |
| 0250  | 0767    | 3422 H |        | 2673 | 14847 | 0384    | 00428  | 1363 |
| 0300  | 0788 B  | 3478 G |        | 2714 | 14871 | 0444    | 00593  | 0990 |
| 0400  | 0700 H  | 3508 I |        | 2750 | 14857 | 0527    | 00883  | 0654 |



|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 393  | WAVES 1 2222 | AIR T 11.5 | VIS     |
| CONS. NO 005 | MONTH 1  | MXSAMPD 04 | WAVES 2 XX   | WET B 09.8 | STN 006 |
| LAT 42-520N  | DAY 22   | NO.DPTH 13 | WND-DIR 220  | WW-CODE    |         |
| LON 61-440W  | HR 07.2  | W-COLOR    | WND-SPD 10   | CLD-TPE    |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1023.0  | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 072 | 0000  | 0480 B  | 32311 |        | 2559 | 14666 |
| 072 | 0008  | 0384    | 32215 |        | 2561 | 14626 |
| 072 | 0015  | 0384    | 32208 |        | 2561 | 14627 |
| 072 | 0023  | 0380    | 32612 |        | 2593 | 14632 |
| 072 | 0038  | 0426    | 32253 |        | 2560 | 14649 |
| 072 | 0057  | 0571    | 33582 |        | 2649 | 14730 |
| 072 | 0077  | 0620    | 33594 |        | 2644 | 14753 |
| 072 | 0115  | 0322    | 34030 |        | 2711 | 14641 |
| 072 | 0153  | 0392    | 34221 |        | 2720 | 14680 |
| 072 | 0191  | 0464    | 34416 |        | 2727 | 14719 |
| 072 | 0229  | 0507    | 34715 |        | 2746 | 14747 |
| 072 | 0306  | 0526    | 34790 |        | 2750 | 14768 |
| 072 | 0383  | 0472    | 34741 |        | 2752 | 14758 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0480 B  | 32311  |        | 2559 | 14666 | 0000    | 00000  | 2405 |
| 0010  | 0380 B  | 3219 C |        | 2560 | 14624 | 0024    | 00001  | 2398 |
| 0020  | 0381    | 3246 I |        | 2581 | 14629 | 0047    | 00005  | 2198 |
| 0030  | 0393    | 3246 I |        | 2580 | 14636 | 0069    | 00010  | 2212 |
| 0050  | 0518 D  | 3305 I |        | 2613 | 14700 | 0111    | 00027  | 1893 |
| 0075  | 0621    | 3362 H |        | 2646 | 14753 | 0155    | 00055  | 1589 |
| 0100  | 0448 I  | 3384 I |        | 2684 | 14690 | 0190    | 00086  | 1232 |
| 0125  | 0322 F  | 3409 C |        | 2716 | 14644 | 0217    | 00117  | 0922 |
| 0150  | 0380 B  | 34210  |        | 2720 | 14674 | 0240    | 00149  | 0889 |
| 0175  | 0435    | 3433 B |        | 2724 | 14703 | 0262    | 00186  | 0860 |
| 0200  | 0476    | 3449 C |        | 2732 | 14727 | 0283    | 00226  | 0786 |
| 0225  | 0504    | 3469 B |        | 2744 | 14744 | 0301    | 00266  | 0674 |
| 0250  | 0520    | 3478 G |        | 2750 | 14757 | 0318    | 00306  | 0628 |
| 0300  | 0527    | 3480 C |        | 2751 | 14768 | 0349    | 00395  | 0626 |

|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 95   | WAVES 1 3020 | AIR T 08.0 | VIS 6   |
| CONS. NO 006 | MONTH 1  | MXSAMPD 01 | WAVES 2 1843 | WET B 08.0 | STN 008 |
| LAT 44-240N  | DAY 26   | NO.DPTH 7  | WND-DIR 300  | WW-CODE 28 |         |
| LON 63-280W  | HR 16.1  | W-COLOR 30 | WND-SPD 07   | CLD-TPE X  |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1024.0  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | CXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 161 | 0000  | 0338    | 31049 |        | 2473 | 14589 |
| 161 | 0010  | 0237    | 30912 |        | 2470 | 14545 |
| 161 | 0020  | 0234    | 30923 |        | 2471 | 14545 |
| 161 | 0030  | 0233    | 30919 |        | 2471 | 14546 |
| 161 | 0050  | 0251    | 30966 |        | 2473 | 14558 |
| 161 | 0075  | 0344    | 31390 |        | 2499 | 14608 |
| 161 | 0095  | 0348    | 31411 |        | 2501 | 14614 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 0338    | 31049 |        | 2473 | 14589 | 0000    | 00000  | 3225 |
| 0010  | 0237    | 30912 |        | 2470 | 14545 | 0033    | 00002  | 3252 |
| 0020  | 0234    | 30923 |        | 2471 | 14545 | 0065    | 00007  | 3242 |
| 0030  | 0233    | 30919 |        | 2471 | 14546 | 0098    | 00015  | 3244 |
| 0050  | 0251    | 30966 |        | 2473 | 14558 | 0163    | 00042  | 3221 |
| 0075  | 0344    | 31390 |        | 2499 | 14608 | 0241    | 00091  | 2975 |

|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 154  | WAVES 1 3020 | AIR T 05.0 | VIS 6   |
| CONS. NO 007 | MONTH 1  | MXSAMPC 01 | WAVES 2 1843 | WET B 05.0 | STN 009 |
| LAT 44-160N  | DAY 26   | NO.DPTH 8  | WND-DIR 290  | WW-CODE 28 |         |
| LON 63-191W  | HR 17.6  | W-COLOR 30 | WND-SPC 07   | CLD-TPE    |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1024.0  | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 176 | 0000  | 0207    | 31179 |        | 2493 | 14533 |
| 176 | 0010  | 0171    | 31079 |        | 2488 | 14518 |
| 176 | 0020  | 0144    | 31098 |        | 2491 | 14508 |
| 176 | 0030  | 0140    | 31125 |        | 2493 | 14508 |
| 176 | 0049  | 0244    | 31494 |        | 2516 | 14562 |
| 176 | 0074  | 0252    | 31576 |        | 2522 | 14571 |
| 176 | 0098  | 0255    | 31631 |        | 2526 | 14577 |
| 176 | 0148  | 0292    | 32031 |        | 2555 | 14607 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0207    | 31179  |        | 2493 | 14533 | 0000    | 00000  | 3029 |
| 0010  | 0171    | 31079  |        | 2488 | 14518 | 0031    | 00002  | 3082 |
| 0020  | 0144    | 31098  |        | 2491 | 14508 | 0062    | 00006  | 3051 |
| 0030  | 0140    | 31125  |        | 2493 | 14508 | 0092    | 00014  | 3028 |
| 0050  | 0246    | 31502  |        | 2516 | 14563 | 0151    | 00038  | 2811 |
| 0075  | 0252    | 31578  |        | 2522 | 14571 | 0221    | 00083  | 2759 |
| 0100  | 0260    | 3167 F |        | 2529 | 14580 | 0290    | 00144  | 2695 |
| 0125  | 0274    | 3184 E |        | 2541 | 14592 | 0356    | 00221  | 2583 |
| *0150 | 0294    | 32050  |        | 2556 | 14608 | 0419    | 00309  | 2437 |

|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 274  | WAVES 1 2711 | AIR T 05.9 | VIS 8   |
| CONS. NO 008 | MONTH 1  | MXSAMPD 03 | WAVES 2 1822 | WET B 05.2 | STN 011 |
| LAT 43-530N  | DAY 26   | NO.DPTH 11 | WND-DIR 270  | WW-CODE 01 |         |
| LON 62-525W  | HR 21.1  | W-COLOR 50 | WND-SPC 08   | CLD-TPE 1  |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1024.3  | CLD-AMT 1  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 211 | 0000  | 0445    | 31961 |        | 2535 | 14647 |
| 211 | 0010  | 0421    | 31886 |        | 2532 | 14637 |
| 211 | 0020  | 0422    | 31893 |        | 2532 | 14639 |
| 211 | 0029  | 0458    | 32072 |        | 2543 | 14658 |
| 211 | 0049  | 0542    | 32488 |        | 2566 | 14702 |
| 211 | 0073  | 0376    | 33043 |        | 2628 | 14644 |
| 211 | 0098  | 0410    | 33576 |        | 2667 | 14670 |
| 211 | 0147  | 0573    | 34281 |        | 2704 | 14755 |
| 211 | 0195  | 0586    | 34391 |        | 2711 | 14769 |
| 211 | 0245  | 0624    | 34559 |        | 2719 | 14795 |
| 211 | 0259  | 0618    | 34535 |        | 2718 | 14794 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0445    | 31961  |        | 2535 | 14647 | 0000    | 00000  | 2633 |
| 0010  | 0421    | 31886  |        | 2532 | 14637 | 0027    | 00001  | 2667 |
| 0020  | 0422    | 31893  |        | 2532 | 14639 | 0053    | 00005  | 2663 |
| 0030  | 0465    | 32092  |        | 2543 | 14662 | 0080    | 00012  | 2556 |
| 0050  | 0536 B  | 32511  |        | 2569 | 14700 | 0129    | 00032  | 2318 |
| 0075  | 0374    | 33089  |        | 2632 | 14644 | 0180    | 00064  | 1721 |
| 0100  | 0417    | 33615  |        | 2669 | 14673 | 0219    | 00098  | 1369 |
| 0125  | 0501 F  | 3403 B |        | 2693 | 14718 | 0250    | 00134  | 1150 |
| 0150  | 0576    | 3430 B |        | 2705 | 14756 | 0278    | 00173  | 1040 |
| 0175  | 0588 C  | 3438 H |        | 2710 | 14766 | 0304    | 00216  | 0998 |
| 0200  | 0591    | 3442 B |        | 2712 | 14772 | 0328    | 00264  | 0977 |
| 0225  | 0613 C  | 3451 F |        | 2717 | 14786 | 0353    | 00316  | 0935 |
| 0250  | 0617 B  | 3453 D |        | 2718 | 14793 | 0376    | 00374  | 0928 |

C-REF-NO 002. YR 1967 DEPTH 84 WAVES 1 XX AIR T 07.0 VIS  
 CONS. NO 009 MONTH 1 MXSAMPD 01 WAVES 2 XX WET B 06.5 STN 013  
 LAT 43-290N DAY 27 NO.DPTH 6 WNC-DIR 290 WW-CODE  
 LON 62-265W HR 00.6 W-COLOR WND-SPD 07 CLD-TPE  
 MARSD SQ 151 C/I 1810 W-TRNSP BARO 1025.0 CLD-AMT HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 006 | 0000  | 0520 B  | 32462 |        | 2567 | 14685 |
| 006 | 0010  | 0507    | 32407 |        | 2564 | 14680 |
| 006 | 0020  | 0510    | 32417 |        | 2564 | 14683 |
| 006 | 0030  | 0535    | 32564 |        | 2573 | 14697 |
| 006 | 0049  | 0650    | 33025 |        | 2595 | 14753 |
| 006 | 0074  | 0618    | 33858 |        | 2665 | 14755 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0520 B  | 32462  |        | 2567 | 14685 | 0000    | 00000  | 2333 |
| 0010  | 0507    | 32407  |        | 2564 | 14680 | 0024    | 00001  | 2361 |
| 0020  | 0510    | 32417  |        | 2564 | 14683 | 0047    | 00005  | 2358 |
| 0030  | 0535    | 32564  |        | 2573 | 14697 | 0071    | 00011  | 2276 |
| 0050  | 0615 I  | 3304 D |        | 2601 | 14739 | 0114    | 00028  | 2015 |
| 0075  | 0617    | 33898  |        | 2668 | 14755 | 0157    | 00055  | 1377 |



|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 101  | WAVES 1 XX  | AIR T 05.3 | VIS     |
| CONS. NO 010 | MONTH 1  | MXSAMPD 01 | WAVES 2 XX  | WET B 05.1 | STN 015 |
| LAT 43-112N  | DAY 27   | NO.DPTH 7  | WND-DIR 310 | WW-CODE    |         |
| LON 62-060W  | HR 03.4  | W-COLOR    | WND-SPC 07  | CLD-TPE    |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1025.3 | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 034 | 0000  | 0520 B  | 32945 |        | 2605 | 14691 |
| 034 | 0010  | 0575    | 32855 |        | 2591 | 14714 |
| 034 | 0020  | 0579    | 32862 |        | 2591 | 14717 |
| 034 | 0030  | 0590    | 32904 |        | 2593 | 14724 |
| 034 | 0049  | 0619    | 32994 |        | 2597 | 14740 |
| 034 | 0074  | 0752    | 32779 |        | 2562 | 14794 |
| 034 | 0098  | 0762    | 34008 |        | 2657 | 14818 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0520 B  | 32945  |        | 2605 | 14691 | 0000    | 00000  | 1970 |
| 0010  | 0575    | 32855  |        | 2591 | 14714 | 0020    | 00001  | 2100 |
| 0020  | 0579    | 32862  |        | 2591 | 14717 | 0042    | 00004  | 2101 |
| 0030  | 0590    | 32904  |        | 2593 | 14724 | 0063    | 00010  | 2083 |
| 0050  | 0624    | 3297 D |        | 2595 | 14742 | 0105    | 00027  | 2074 |
| 0075  | 0718 I  | 3310 I |        | 2592 | 14785 | 0157    | 00061  | 2100 |
| 0100  | 0765 B  | 3411 I |        | 2665 | 14821 | 0201    | 00099  | 1416 |

C-REF-NO 002 YR 1967 DEPTH 1024 WAVES 1 XX AIR T 05.1 VIS  
 CONS. NO 011 MONTH 1 MXSAMPD 05 WAVES 2 XX WET B 05.0 STN 017  
 LAT 42-510N DAY 27 NO.DPTH 13 WNC-DIR 320 WW-CODE  
 LON 61-450W HR 06.4 W-COLOR WND-SPC 10 CLD-TPE  
 MARSD SQ 151 C/I 1810 W-TRNSP BARO 1025.5 CLD-AMT HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 064 | 0000  | 0420 B  | 32423 |        | 2574 | 14642 |
| 064 | 0010  | 0404    | 32347 |        | 2570 | 14636 |
| 064 | 0019  | 0406    | 32354 |        | 2570 | 14639 |
| 064 | 0029  | 0411    | 32378 |        | 2572 | 14643 |
| 064 | 0048  | 0586    | 32742 |        | 2581 | 14723 |
| 064 | 0072  | 0869    | 33905 |        | 2633 | 14853 |
| 064 | 0097  | 0193    | 34034 |        | 2723 | 14582 |
| 064 | 0145  | 0500    | 34141 |        | 2702 | 14723 |
| 064 | 0193  | 0737    | 34764 |        | 2720 | 14834 |
| 064 | 0241  | 0711    | 34902 |        | 2735 | 14833 |
| 064 | 0290  | 0770    | 34931 |        | 2728 | 14864 |
| 064 | 0386  | 0508    | 34823 |        | 2755 | 14775 |
| 064 | 0483  | 0462    | 34745 |        | 2754 | 14771 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0420 B  | 32423  |        | 2574 | 14642 | 0000    | 00000  | 2261 |
| 0010  | 0404    | 32347  |        | 2570 | 14636 | 0023    | 00001  | 2304 |
| 0020  | 0405    | 32353  |        | 2570 | 14638 | 0046    | 00005  | 2300 |
| 0030  | 0417    | 32386  |        | 2572 | 14645 | 0069    | 00011  | 2288 |
| 0050  | 0626 F  | 3284 H |        | 2584 | 14741 | 0114    | 00029  | 2173 |
| 0075  | 0799 I  | 3395 F |        | 2647 | 14827 | 0161    | 00058  | 1579 |
| 0100  | 0182 I  | 3404 B |        | 2724 | 14578 | 0192    | 00085  | 0847 |
| 0125  | 0248 I  | 3408 I |        | 2722 | 14612 | 0214    | 00110  | 0869 |
| 0150  | 0532 B  | 3421 E |        | 2703 | 14738 | 0238    | 00144  | 1057 |
| 0175  | 0668 D  | 3453 I |        | 2711 | 14800 | 0264    | 00187  | 0986 |
| 0200  | 0739 D  | 3480 C |        | 2723 | 14836 | 0287    | 00232  | 0884 |
| 0225  | 0730 F  | 3489 E |        | 2731 | 14838 | 0309    | 00279  | 0811 |
| 0250  | 0723 C  | 34914  |        | 2734 | 14840 | 0329    | 00328  | 0788 |
| 0300  | 0749 F  | 3492 B |        | 2731 | 14858 | 0369    | 00443  | 0826 |
| 0400  | 0599 I  | 3485 H |        | 2746 | 14814 | 0446    | 00715  | 0691 |

|              |          |            |             |            |         |
|--------------|----------|------------|-------------|------------|---------|
| C-REF-NO 002 | YR 1967  | DEPTH 2598 | WAVES 1 XX  | AIR T 05.2 | VIS     |
| CONS. NO 012 | MONTH 1  | MXSAMPD 05 | WAVES 2 XX  | WET B 05.1 | STN 019 |
| LAT 42-270N  | DAY 27   | NC.DPTH 13 | WND-DIR 330 | WW-CODE    |         |
| LON 61-250W  | HR 09.3  | W-COLOR    | WNC-SPD 09  | CLD-TPE    |         |
| MARSD SQ 151 | C/I 1810 | W-TRNSP    | BARO 1026.5 | CLD-AMT    | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 093 | 0000  | 0480 B  | 32609 |        | 2583 | 14670 |
| 093 | 0009  | 0487    | 32558 |        | 2578 | 14674 |
| 093 | 0019  | 0490    | 32557 |        | 2577 | 14677 |
| 093 | 0028  | 0488    | 32560 |        | 2578 | 14677 |
| 093 | 0047  | 0674    | 33320 |        | 2615 | 14766 |
| 093 | 0070  | 0795    | 34180 |        | 2666 | 14828 |
| 093 | 0094  | 0704    | 34364 |        | 2693 | 14799 |
| 093 | 0141  | 0790    | 34774 |        | 2713 | 14846 |
| 093 | 0188  | 0784    | 34904 |        | 2724 | 14853 |
| 093 | 0235  | 0698    | 34861 |        | 2733 | 14826 |
| 093 | 0282  | 0623    | 34870 |        | 2744 | 14805 |
| 093 | 0376  | 0542    | 34913 |        | 2758 | 14788 |
| 093 | 0470  | 0482    | 34915 |        | 2765 | 14779 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 0480 B  | 32609  |        | 2583 | 14670 | 0000    | 00000  | 2180 |
| 0010  | 0488    | 32556  |        | 2578 | 14674 | 0022    | 00001  | 2229 |
| 0020  | 0488    | 3255 B |        | 2577 | 14676 | 0045    | 00005  | 2234 |
| 0030  | 0503 C  | 3262 F |        | 2581 | 14685 | 0067    | 00010  | 2202 |
| 0050  | 0699    | 3345 D |        | 2622 | 14778 | 0107    | 00026  | 1810 |
| 0075  | 0781 D  | 3425 G |        | 2673 | 14825 | 0147    | 00051  | 1334 |
| 0100  | 0708 D  | 3442 B |        | 2697 | 14802 | 0178    | 00078  | 1107 |
| 0125  | 0746 H  | 3465 D |        | 2710 | 14824 | 0204    | 00109  | 0997 |
| 0150  | 0796    | 34816  |        | 2716 | 14850 | 0229    | 00143  | 0945 |
| 0175  | 0794    | 34891  |        | 2722 | 14854 | 0252    | 00182  | 0893 |
| 0200  | 0765 B  | 3490 C |        | 2727 | 14847 | 0274    | 00224  | 0850 |
| 0225  | 0719 B  | 3488 B |        | 2731 | 14833 | 0295    | 00270  | 0807 |
| 0250  | 0672    | 34861  |        | 2737 | 14819 | 0314    | 00318  | 0757 |
| 0300  | 0603    | 34879  |        | 2747 | 14800 | 0350    | 00418  | 0661 |
| 0400  | 0514 C  | 3491 B |        | 2761 | 14781 | 0411    | 00634  | 0542 |

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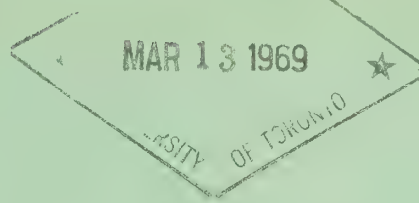
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| 3   | Gulf of St. Lawrence   | 10-67-008              |
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| 5   | Ocean Weather Station 'P'                                    | 02-67-003<br>02-67-004 |
| 6   | Baffin Bay Bathythermograms, 1964                            | 10-64-020              |



These data have received a limited distribution  
and discretion should be exercised with regard  
to further distribution

8



Government  
Publications



DEPARTMENT OF ENERGY, MINES AND RESOURCES  
Ottawa

OBSERVATIONS OF  
SEAWATER TEMPERATURE AND SALINITY  
ON THE PACIFIC COAST OF CANADA  
1966

No. 8

1968 Data Record Series

Canadian Oceanographic Data Centre

Programmed by the  
Canadian Committee on Oceanography

1968

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**Canadian Oceanographic Data Centre**

**615 Booth St., Ottawa, Canada**

**Programmed by the Canadian Committee on Oceanography**







Fig. 1. Location of stations making daily seawater observations.

Table I      Locations of stations making daily seawater  
observations, and names of observers in 1966

| Station          | Latitude(N) | Longitude(W) | Observers  |
|------------------|-------------|--------------|--|
| Langara Island   | 54° 15' 19" | 133° 03' 30" | G. C. Wilks<br>R. Chapplow                                     |
| Triple Island    | 54° 17' 36" | 130° 52' 40" | L. M. Clifford<br>D. H. Franklin                               |
| Bonilla Island   | 53° 29' 39" | 130° 38' 04" | H. J. MacArthur  |
| McInnes Island   | 52° 15' 48" | 128° 43' 10" | H. I. Olsen<br>W. R. McIlroy                                   |
| Cape St. James   | 51° 56' 18" | 131° 00' 50" | J. M. Richards<br>P. B. Robertson                              |
| Pine Island      | 50° 58' 33" | 127° 43' 35" | E. D. Brown (Mrs.)   |
| Kains Island     | 50° 26' 39" | 128° 01' 47" | T. C. Collins  |
| Amphitrite Point | 48° 55' 16" | 125° 32' 17" | O. A. Edwards  |
| Race Rocks       | 48° 17' 57" | 123° 31' 48" | E. Cehak (Mrs.)<br>J. A. Tully (Mrs.)<br>F. B. Anderson (Mrs.) |
| Cape Mudge       | 49° 59' 56" | 125° 11' 38" | A. J. Swanson<br>C. W. A. Egg                                  |
| Chrome Island    | 49° 28' 20" | 124° 40' 57" | W. E. Gardner  |
| Entrance Island  | 49° 12' 34" | 123° 48' 27" | V. C. Emrich (Mrs.)<br>N. Perron (Mrs.)                        |
| Departure Bay    | 49° 12' 38" | 123° 57' 17" | F. R. B. personnel   |
| East Point       | 48° 47' 05" | 123° 02' 36" | I. D. Quinney (Mrs.)   |
| New Westminster  | 49° 11' 54" | 122° 56' 34" | Dept. of Fisheries<br>personnel                                |

## Observations of Seawater Temperature and Salinity at British Columbia Coastal Stations in 1966

### Introduction

Daily observations of surface seawater temperatures and the collection of samples for salinity analysis have been made since 1934 at numerous locations along the British Columbia coast. During 1966 these observations were continued at 14 stations (Fig. 1, Table I). The majority of the sampling locations are at lightstations, and the services of the lightkeepers have been obtained through arrangement with the Marine Services division of the Department of Transport. The observations at the Cape St. James Radiobeacon are made by the meteorological staff, with the permission of the Regional Director, Air Services, of the Department of Transport. The observers receive a remuneration from the Fisheries Research Board for their work. Water temperature observations only are made at 8:30 a.m. daily at New Westminster, B.C. by Department of Fisheries personnel.

### Observation procedures

The daily observation is made one hour prior to the time of the high tide occurring in the daytime, as determined from the Tide Tables, or as close as possible to this standard sampling time, circumstances permitting. There are two locations where the observation time is determined in a different manner. At Race Rocks, the observation is made at the time of turning to ebb at Juan de Fuca Strait Entrance, as listed in the Tide Tables. This is generally 1/2 hour later than the time of high water slack in Race Passage. At Cape Mudge, the observation is made 30 minutes earlier than the time of turning to ebb in Seymour Narrows, as listed in the Tide Tables. This is usually the time of high water slack in Discovery Passage near the lightstation.

The seawater temperatures are measured with a mercury thermometer graduated in 0.5F intervals, which has a maximum index scale error of +0.3F (+0.2C). The thermometer is mounted in a protective case of 1-inch diameter aluminium pipe, with a well of 6 inches length around the bulb of the

thermometer. A 2-oz (57 cc) glass medicine bottle is used to obtain the seawater sample. It is sealed with a plastic-lined screw cap. The thermometer case and a sample bottle holder are attached to a 16-foot pole of aluminium pipe, which is lowered to a sampling depth of 3 feet (1 metre) for two minutes. The time of observation and the water temperature reading are recorded on a log sheet. The water sample bottles are stored in wooden boxes of 90, and are shipped to the Pacific Oceanographic Group at Nanaimo, B.C., for salinity analysis.

#### Machine processing of the data

The large numbers of temperature and salinity data are processed by a machine computations method. A program for use with the IBM 1620 computer and later converted for use on the CDC 3100 computer was developed by the Canadian Oceanographic Data Centre at Ottawa, Ont. (Somers, 1965). For each month's data, the following statistics are computed: monthly mean temperature and salinity, the number of observations, the maximum and minimum daily values, and the standard deviation in each month. The annual mean temperature and salinity are also computed.

The monthly mean temperatures and salinities are rounded off to the reported decimal place. The "OBSVNS" line lists the number of true observed data in each month's tabulations. The maximum and minimum daily values in each month are then listed. The standard deviation (STD DEV) values have been truncated to the second decimal place. Annual mean temperature and salinity values are listed on the October-November-December page of each station, on the "YRLY" line.

A 7-day, normally-weighted, running mean of the daily data is calculated (Holloway, Jr., 1958) and an automatic graphical plot of these running mean values is prepared at the Oceanographic Data Centre. A print-out of the running mean values is also made, but is not published in the data record.



### The 1966 daily temperature and salinity data

The temperatures are listed as reported by the observer. Observations were deleted only when it was suspected or discovered that a faulty thermometer had been used. The accuracy of the individual readings is considered to be within  $\pm 0.5^{\circ}\text{F}$  ( $\pm 0.3^{\circ}\text{C}$ ). The salinity data are obtained by a single determination of each sample, with occasional double checks, using a conductivity salinometer. Only the most obvious erroneous values have been eliminated from the data. A comparison of results obtained in the double-checked analyses shows that the accuracy of the salinity data from single determinations would be within  $\pm 0.03\%$ . A test of the sealing efficiency of the plastic caps on the sample bottles during a storage period of 180 days showed some instances of salinity increases that reached a maximum of  $0.02\%$ . This is within the limits of accuracy of the routine analytical procedure.

Interpolated values of daily temperature and salinity were inserted in one- and two-day missed observation periods so that the computations of the 7-day, normally-weighted, running mean would provide a reasonably continuous plot. These interpolated values are indicated in the tabulations by an asterisk (\*) preceding the value. Periods of more than 2 days missed observations are indicated by a 0 entry preceded by an asterisk (\*). Invalid days such as April 31 are indicated by a 0 entry.

The stations are arranged in the data record in a general north to south order, with the stations in the Strait of Georgia as a separate section, as shown in Table I. The position coordinates of the sampling location are listed at the top of each page as degrees, minutes and seconds of latitude and longitude.

### The annual graph plots

The graph plots of the 7 day normally-weighted running means presented in this report are copies of the automatic plots produced on the Calcomp 563 plotter. Scale values have been added by hand. In order to maintain a reasonably continuous plot, interpolated values of daily temperature and salinity were supplied for one- and two- day missed observation periods.

### Acknowledgements

We are grateful to the observers who have made these daily observations and who have maintained a remarkable degree of continuity in the records, despite stormy and adverse winter weather conditions. Excellent cooperation has been received from the District Marine Agents at Victoria and Prince Rupert, as well as from the D.O.T. Radio Branch, who transmitted numerous messages concerning the observations program.

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Tabulations of Daily Sea Surface  
Temperature and Salinity

1966

Temp: Temperature °F

Sal : Salinity ‰

LANGARA ISLAND

54 15 19 N

133 03 30 W

JANUARY

FEBRUARY

MARCH

1966

| DATE | TEMP | SAL   | TEMP   | SAL     | TEMP   | SAL     |
|------|------|-------|--------|---------|--------|---------|
| 1    | * 0  | * 0   | 43.8   | 31.93   | 43.0   | 31.95   |
| 2    | * 0  | * 0   | 43.9   | 32.11   | 42.8   | 32.04   |
| 3    | * 0  | * 0   | 43.5   | 32.08   | 42.6   | 32.13   |
| 4    | * 0  | * 0   | 43.6   | 32.09   | * 42.8 | * 32.19 |
| 5    | * 0  | 32.24 | 43.6   | 32.15   | 43.0   | 32.25   |
| 6    | 42.3 | 32.27 | 43.2   | 32.11   | 43.0   | 32.21   |
| 7    | 42.0 | 32.28 | 43.1   | 31.93   | 43.2   | 32.16   |
| 8    | 42.4 | 32.35 | * 43.1 | * 31.86 | 43.3   | 32.27   |
| 9    | 42.5 | 32.29 | * 43.2 | * 31.79 | * 43.3 | * 32.22 |
| 10   | 42.0 | 32.33 | 43.3   | 31.73   | * 43.2 | * 32.17 |
| 11   | 42.4 | 32.31 | 43.2   | 32.00   | 43.1   | 32.12   |
| 12   | 42.9 | 32.28 | 43.0   | 31.96   | 42.9   | 32.15   |
| 13   | 42.8 | 32.19 | * 43.1 | * 31.97 | 43.5   | 31.96   |
| 14   | 43.3 | 32.19 | 43.2   | 31.98   | 42.9   | 32.09   |
| 15   | 44.0 | 32.24 | 43.4   | 31.78   | 43.0   | 32.11   |
| 16   | 44.6 | 32.31 | 43.5   | 31.75   | 42.9   | 32.19   |
| 17   | 44.5 | 32.24 | 43.2   | 31.93   | 42.5   | 32.20   |
| 18   | 44.2 | 32.26 | 43.4   | 32.08   | 42.4   | 32.16   |
| 19   | 44.5 | 32.25 | 43.6   | 32.21   | 42.6   | 32.14   |
| 20   | 44.2 | 31.99 | 43.8   | 32.07   | 42.9   | 32.23   |
| 21   | 43.8 | 32.12 | 44.0   | 32.12   | * 43.2 | * 32.19 |
| 22   | 43.5 | 32.17 | 43.6   | 32.07   | 43.5   | 32.15   |
| 23   | 42.3 | 32.33 | 43.9   | 32.15   | 43.2   | 32.06   |
| 24   | 42.9 | 32.32 | 44.0   | 32.14   | * 43.4 | * 32.04 |
| 25   | 43.7 | 32.27 | 43.8   | 32.21   | 43.6   | 32.01   |
| 26   | 43.3 | 32.23 | * 43.6 | * 32.17 | 44.5   | 32.02   |
| 27   | 43.6 | 32.25 | 43.4   | 32.12   | 44.9   | 31.92   |
| 28   | 43.8 | 32.23 | 43.3   | 32.07   | 44.3   | 31.73   |
| 29   | 43.8 | 32.15 | 0      | 0       | 44.8   | 31.84   |
| 30   | 43.8 | 32.16 | 0      | 0       | 44.5   | 31.95   |
| 31   | 44.0 | 32.15 | 0      | 0       | 44.0   | 31.98   |

|          |      |       |      |       |      |       |
|----------|------|-------|------|-------|------|-------|
| MEANS    | 43.3 | 32.24 | 43.5 | 32.03 | 43.3 | 32.08 |
| OBSVNS.  | 26   | 27    | 24   | 24    | 26   | 26    |
| MAXIMUM  | 44.6 | 32.35 | 44.0 | 32.21 | 44.9 | 32.27 |
| MINIMUM  | 42.0 | 31.99 | 43.0 | 31.73 | 42.4 | 31.73 |
| STD.DEV. | .81  | .08   | .30  | .13   | .72  | .13   |

LANGARA ISLAND

54 15 19 N

133 03 30 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL   | TEMP   | SAL     | TEMP   | SAL     |
|----------|------|-------|--------|---------|--------|---------|
| 1        | 44.2 | 32.05 | 44.9   | 32.12   | 46.6   | 32.45   |
| 2        | 43.8 | 32.12 | 45.1   | 31.96   | 46.2   | 32.50   |
| 3        | 45.0 | 32.15 | 44.7   | 32.11   | 46.2   | 32.54   |
| 4        | 44.4 | 32.11 | 45.0   | 32.22   | 46.0   | 32.43   |
| 5        | 45.2 | 32.11 | 45.4   | 32.19   | * 46.3 | * 32.46 |
| 6        | 47.2 | 32.23 | 45.6   | 32.30   | 46.5   | 32.49   |
| 7        | 45.0 | 32.21 | 45.3   | 32.33   | 47.3   | 32.58   |
| 8        | 44.6 | 32.24 | 46.1   | 32.26   | 46.5   | 32.78   |
| 9        | 44.6 | 32.18 | 46.6   | 32.26   | 47.3   | 32.50   |
| 10       | 43.1 | 32.14 | 46.5   | 32.32   | 48.0   | 32.52   |
| 11       | 44.2 | 32.35 | * 46.8 | * 32.16 | 48.5   | 32.40   |
| 12       | 42.8 | 32.30 | 47.0   | 32.01   | 48.9   | 32.39   |
| 13       | 43.6 | 32.21 | 47.5   | 32.05   | 49.3   | 32.37   |
| 14       | 43.5 | 32.22 | 47.3   | 31.98   | * 48.8 | * 32.24 |
| 15       | 43.4 | 32.08 | 46.0   | 32.22   | 48.3   | 32.10   |
| 16       | 43.6 | 31.70 | * 45.8 | * 32.21 | 47.9   | 32.44   |
| 17       | 44.6 | 31.94 | 45.5   | 32.20   | 48.5   | 32.43   |
| 18       | 44.9 | 32.10 | 46.0   | 31.89   | 48.6   | 32.27   |
| 19       | 44.1 | 32.02 | 45.8   | 31.93   | 48.7   | 32.26   |
| 20       | 43.8 | 31.79 | 46.0   | 31.98   | 48.7   | 32.10   |
| 21       | 44.0 | 31.89 | 46.5   | 32.27   | 50.5   | 32.33   |
| 22       | 44.3 | 32.08 | 45.5   | 32.00   | * 50.6 | * 32.28 |
| 23       | 44.6 | 31.97 | * 45.8 | * 32.14 | * 50.7 | * 32.22 |
| 24       | 45.0 | 31.90 | 46.1   | 32.28   | 50.8   | 32.17   |
| 25       | 44.5 | 31.82 | 46.5   | 32.27   | 50.5   | 32.22   |
| 26       | 44.5 | 31.93 | 46.5   | 32.40   | 50.6   | 32.34   |
| 27       | 45.0 | 32.05 | 47.1   | 32.25   | 50.6   | 32.29   |
| 28       | 44.7 | 32.05 | 46.8   | 32.39   | 50.0   | 32.21   |
| 29       | 44.6 | 32.20 | 47.3   | 32.35   | 50.0   | 32.39   |
| 30       | 44.4 | 32.22 | 46.6   | 32.33   | 51.3   | 32.22   |
| 31       | 0    | 0     | 46.7   | 32.58   | 0      | 0       |
| MEANS    | 44.4 | 32.08 | 46.1   | 32.19   | 48.5   | 32.37   |
| OBSVNS.  | 30   | 30    | 28     | 28      | 26     | 26      |
| MAXIMUM  | 47.2 | 32.35 | 47.5   | 32.58   | 51.3   | 32.78   |
| MINIMUM  | 42.8 | 31.70 | 44.7   | 31.89   | 46.0   | 32.10   |
| STD.DEV. | .81  | .16   | .78    | .17     | 1.64   | .16     |



LANGARA ISLAND

54 15 19 N

133 03 30 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|----------|--------|---------|--------|---------|--------|---------|
| 1        | 52.0   | 31.52   | 52.0   | 31.78   | 49.0   | 32.23   |
| 2        | 52.5   | 31.57   | 52.5   | 32.00   | 48.3   | 32.35   |
| 3        | 51.3   | 31.52   | 49.5   | 32.04   | 49.5   | 32.12   |
| 4        | 50.4   | 31.70   | 52.2   | 32.08   | 51.5   | 32.25   |
| 5        | 51.5   | 31.75   | 52.7   | 32.20   | * 52.2 | * 32.20 |
| 6        | * 49.9 | * 31.92 | 51.9   | 32.26   | 53.0   | 32.15   |
| 7        | 48.2   | 32.09   | 50.9   | 32.13   | 54.5   | 32.12   |
| 8        | 50.5   | 31.30   | 52.4   | 31.99   | 52.8   | 32.02   |
| 9        | 50.0   | 31.65   | * 53.7 | * 31.97 | 53.2   | 31.86   |
| 10       | 50.6   | 31.40   | 55.0   | 31.95   | 55.0   | 31.94   |
| 11       | 51.0   | 31.01   | 54.7   | 31.94   | 54.5   | 32.11   |
| 12       | 51.6   | 30.54   | 54.5   | 31.86   | 54.5   | 32.13   |
| 13       | 51.8   | 30.97   | 54.1   | 32.00   | 53.2   | 32.22   |
| 14       | 49.2   | 31.85   | 53.8   | 31.92   | 53.6   | 32.23   |
| 15       | 48.6   | 31.79   | 52.5   | 32.17   | 52.3   | 32.24   |
| 16       | 48.7   | * 32.00 | 53.5   | 32.05   | 52.9   | 32.23   |
| 17       | 48.3   | 32.21   | 52.6   | 32.22   | 53.0   | 32.11   |
| 18       | 49.2   | 31.75   | 52.8   | 32.26   | 53.2   | 32.14   |
| 19       | 49.3   | 31.93   | 50.9   | 32.46   | 54.8   | 32.05   |
| 20       | 48.6   | 32.16   | 50.8   | 32.45   | 53.9   | 31.98   |
| 21       | 48.9   | 32.41   | 51.2   | 32.44   | 54.2   | 31.99   |
| 22       | 48.3   | 32.30   | 49.6   | 32.57   | 54.5   | 32.01   |
| 23       | * 48.5 | * 32.34 | 51.1   | 32.61   | 54.7   | 32.04   |
| 24       | 48.6   | 32.38   | 52.5   | 32.23   | * 54.3 | * 31.98 |
| 25       | 49.4   | 31.80   | 51.4   | 32.02   | * 53.8 | * 31.92 |
| 26       | 49.5   | 30.92   | 51.2   | 31.78   | 53.4   | 31.87   |
| 27       | 48.6   | * 31.22 | 50.5   | 32.13   | 54.2   | 32.04   |
| 28       | 48.4   | * 31.53 | 49.3   | 32.32   | 54.3   | 31.95   |
| 29       | 49.6   | 31.83   | 48.3   | 32.38   | 53.4   | 32.08   |
| 30       | 49.6   | 31.77   | 48.0   | 32.46   | 54.0   | 31.90   |
| 31       | 49.6   | 31.73   | 47.3   | 32.49   | 0      | 0       |
| MEANS    | 49.8   | 31.69   | 51.7   | 32.17   | 53.2   | 32.09   |
| OBSVNS.  | 29     | 26      | 30     | 30      | 27     | 27      |
| MAXIMUM  | 52.5   | 32.41   | 55.0   | 32.61   | 55.0   | 32.35   |
| MINIMUM  | 48.2   | 30.54   | 47.3   | 31.78   | 48.3   | 31.86   |
| STD.DEV. | 1.28   | .46     | 1.96   | .23     | 1.74   | .13     |

LANGARA ISLAND

54 15 19 N

133 03 30 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP   | SAL     |   | TEMP | SAL     | TEMP   | SAL     |
|-------------|--------|---------|---|------|---------|--------|---------|
| 1           | 52.9   | 31.65   | * | 48.4 | * 31.88 | 44.5   | 32.40   |
| 2           | 52.1   | 31.67   |   | 48.8 | 31.79   | 44.7   | 32.12   |
| 3           | 51.6   | 31.97   |   | 48.7 | 31.74   | 45.1   | 32.26   |
| 4           | 51.5   | 31.72   |   | 47.6 | 31.92   | 44.0   | 32.13   |
| 5           | 52.6   | 31.27   |   | 47.7 | 31.81   | * 44.0 | * 32.07 |
| 6           | 52.7   | 31.73   |   | 48.5 | 31.59   | * 43.9 | * 32.00 |
| 7           | 53.0   | 31.63   |   | 47.5 | 31.63   | 43.9   | 31.93   |
| 8           | * 53.0 | * 31.72 |   | 47.4 | 31.94   | * 44.1 | * 32.02 |
| 9           | 53.0   | 31.80   |   | 47.4 | 31.65   | * 44.3 | * 32.12 |
| 10          | 52.5   | 31.77   |   | 46.3 | 32.30   | 44.5   | 32.22   |
| 11          | 51.2   | 31.78   |   | 45.8 | 32.30   | 44.5   | 32.06   |
| 12          | 50.5   | 31.98   |   | 46.2 | 32.30   | 44.7   | 32.10   |
| 13          | 49.5   | 32.23   |   | 46.2 | 32.34   | 44.4   | 31.98   |
| 14          | 50.0   | 32.07   |   | 44.9 | * 32.46 | 44.5   | 32.09   |
| 15          | 48.5   | 32.08   |   | 45.1 | 32.59   | 44.7   | 32.05   |
| 16          | 48.6   | 32.18   |   | 45.9 | 32.33   | 44.5   | 32.11   |
| 17          | 49.5   | 32.16   |   | 45.9 | 32.29   | 44.8   | 32.05   |
| 18          | * 49.4 | * 32.07 |   | 46.1 | 32.27   | 45.0   | 32.06   |
| 19          | 49.3   | 31.98   |   | 46.2 | 32.23   | 44.6   | 31.82   |
| 20          | 49.7   | 31.94   |   | 46.3 | 32.07   | 44.2   | 31.80   |
| 21          | 49.6   | 31.87   |   | 45.7 | 31.94   | 44.7   | 32.01   |
| 22          | 49.5   | 31.58   |   | 45.9 | 31.88   | 44.8   | 31.90   |
| 23          | 49.3   | 31.83   |   | 46.1 | 32.00   | 44.8   | 32.02   |
| 24          | 48.6   | 31.82   |   | 46.6 | 31.45   | 44.4   | 31.99   |
| 25          | 48.4   | 31.95   | * | 46.3 | * 31.65 | 44.2   | 31.89   |
| 26          | 48.1   | 32.04   | * | 45.9 | * 31.85 | 43.8   | 31.98   |
| 27          | 47.3   | 32.10   |   | 45.5 | 32.05   | 44.7   | 32.08   |
| 28          | 47.5   | 32.12   |   | 45.1 | 31.96   | 44.9   | 32.02   |
| 29          | 48.6   | 32.03   | * | 44.9 | * 32.10 | 45.0   | 32.06   |
| 30          | 47.6   | 32.10   | * | 44.7 | * 32.25 | 45.0   | 32.02   |
| 31          | 48.1   | 31.96   |   | 0    | 0       | 44.9   | 31.92   |
| MEANS       | 50.0   | 31.90   |   | 46.5 | 32.02   | 44.6   | 32.04   |
| OBSVNS.     | 29     | 29      |   | 25   | 24      | 27     | 27      |
| YRLY. MEANS |        |         |   |      |         | 47.2   | 32.08   |
| MAXIMUM     | 53.0   | 32.23   |   | 48.8 | 32.59   | 45.1   | 32.40   |
| MINIMUM     | 47.3   | 31.27   |   | 44.9 | 31.45   | 43.8   | 31.80   |
| STD. DEV.   | 1.86   | .22     |   | 1.11 | .29     | .34    | .13     |

TRIPLE ISLAND

54 17 36 N

130 52 40 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|----------|------|-------|------|-------|------|-------|
| 1        | 44.8 | 31.72 | 44.5 | 31.83 | 44.5 | 31.67 |
| 2        | 45.5 | 31.75 | 45.0 | 31.75 | 43.8 | 31.49 |
| 3        | 43.0 | 31.75 | 45.0 | 31.83 | 43.2 | 31.60 |
| 4        | 43.8 | 31.75 | 44.7 | 31.72 | 44.2 | 31.68 |
| 5        | 43.8 | 31.72 | 44.8 | 31.65 | 44.1 | 31.59 |
| 6        | 43.8 | 31.63 | 44.5 | 31.60 | 44.2 | 31.77 |
| 7        | 43.7 | 31.74 | 44.7 | 31.59 | 44.5 | 31.77 |
| 8        | 44.4 | 31.72 | 44.4 | 31.59 | 44.6 | 31.79 |
| 9        | 44.2 | 31.71 | 45.0 | 31.57 | 44.3 | 31.83 |
| 10       | 44.5 | 31.74 | 44.8 | 31.60 | 44.3 | 31.76 |
| 11       | 44.5 | 31.75 | 44.5 | 31.61 | 44.7 | 31.78 |
| 12       | 44.6 | 31.73 | 44.0 | 31.66 | 44.2 | 31.61 |
| 13       | 44.7 | 31.49 | 44.2 | 31.64 | 44.5 | 31.59 |
| 14       | 44.7 | 31.71 | 44.0 | 31.92 | 44.9 | 31.82 |
| 15       | 44.8 | 31.61 | 43.4 | 31.51 | 44.6 | 31.75 |
| 16       | 44.9 | 31.70 | 44.3 | 31.57 | 44.5 | 31.75 |
| 17       | 44.8 | 31.70 | 44.0 | 31.58 | 44.7 | 31.77 |
| 18       | 44.1 | 31.82 | 43.7 | 31.50 | 44.8 | 31.94 |
| 19       | 44.5 | 31.66 | 43.9 | 31.50 | 44.8 | 31.83 |
| 20       | 44.8 | 31.44 | 44.0 | 31.51 | 44.8 | 31.89 |
| 21       | 44.0 | 31.56 | 44.3 | 31.49 | 45.0 | 31.85 |
| 22       | 43.5 | 31.57 | 44.7 | 31.56 | 44.6 | 31.84 |
| 23       | 42.4 | 31.51 | 44.7 | 31.54 | 45.0 | 31.83 |
| 24       | 42.7 | 31.52 | 44.8 | 31.65 | 44.5 | 31.83 |
| 25       | 44.0 | 31.58 | 44.8 | 31.77 | 45.1 | 31.81 |
| 26       | 42.1 | 31.65 | 45.0 | 31.90 | 45.0 | 31.72 |
| 27       | 44.0 | 31.71 | 44.7 | 31.80 | 45.0 | 31.69 |
| 28       | 43.0 | 31.61 | 44.5 | 31.69 | 45.8 | 31.44 |
| 29       | 43.5 | 31.74 | 0    | 0     | 45.5 | 31.71 |
| 30       | 43.0 | 31.74 | 0    | 0     | 45.3 | 31.67 |
| 31       | 44.0 | 31.74 | 0    | 0     | 44.9 | 31.68 |
| MEANS    | 44.0 | 31.67 | 44.5 | 31.65 | 44.6 | 31.73 |
| OBSVNS.  | 31   | 31    | 28   | 28    | 31   | 31    |
| MAXIMUM  | 45.5 | 31.82 | 45.0 | 31.92 | 45.8 | 31.94 |
| MINIMUM  | 42.1 | 31.44 | 43.4 | 31.49 | 43.2 | 31.44 |
| STD.DEV. | .81  | .09   | .43  | .12   | .50  | .11   |

TRIPLE ISLAND

54 17 36 N

130 52 40 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL   | TEMP | SAL     | TEMP | SAL     |
|----------|------|-------|------|---------|------|---------|
| 1        | 45.2 | 31.72 | 45.4 | 31.47   | 49.4 | 29.78   |
| 2        | 45.3 | 31.77 | 45.8 | 31.40   | 49.0 | 28.15   |
| 3        | 46.0 | 31.73 | 45.6 | 31.55   | 49.5 | 30.81   |
| 4        | 45.6 | 31.72 | 45.7 | 31.57   | 51.4 | 27.24   |
| 5        | 45.9 | 31.67 | 46.3 | 31.63   | 50.8 | 28.68   |
| 6        | 46.0 | 31.63 | 46.0 | 31.47   | 51.1 | 29.10   |
| 7        | 45.3 | 31.51 | 46.0 | 31.55   | 51.2 | 28.83   |
| 8        | 45.7 | 31.51 | 46.9 | 31.43   | 50.2 | 29.06   |
| 9        | 45.4 | 31.51 | 47.5 | 30.93   | 50.7 | 28.71   |
| 10       | 44.5 | 30.56 | 49.4 | 30.10   | 50.2 | 30.87   |
| 11       | 44.2 | 31.19 | 46.7 | 30.34   | 50.0 | 31.22   |
| 12       | 44.2 | 31.37 | 46.4 | 30.84   | 49.9 | 31.19   |
| 13       | 44.4 | 31.29 | 46.5 | 30.58   | 49.8 | * 31.06 |
| 14       | 45.0 | 31.61 | 47.0 | 29.62   | 50.9 | 30.93   |
| 15       | 45.1 | 31.64 | 46.4 | 30.80   | 51.5 | 28.36   |
| 16       | 45.2 | 31.65 | 46.7 | 31.47   | 52.3 | 28.57   |
| 17       | 45.2 | 30.44 | 46.8 | 31.32   | 51.2 | 30.94   |
| 18       | 45.9 | 31.26 | 46.6 | 31.23   | 50.9 | 31.13   |
| 19       | 45.3 | 31.20 | 46.7 | 31.12   | 50.2 | 31.25   |
| 20       | 45.2 | 31.46 | 47.2 | 31.51   | 50.4 | 31.09   |
| 21       | 45.1 | 31.37 | 47.5 | 31.46   | 51.0 | 31.13   |
| 22       | 45.3 | 31.48 | 46.7 | 31.10   | 51.8 | 31.13   |
| 23       | 45.5 | 31.60 | 47.0 | 31.54   | 52.5 | 29.60   |
| 24       | 46.2 | 31.50 | 47.0 | 31.44   | 54.0 | 26.53   |
| 25       | 46.5 | 31.52 | 47.0 | 31.45   | 52.5 | 30.61   |
| 26       | 47.0 | 31.22 | 47.4 | 31.39   | 51.5 | 30.98   |
| 27       | 46.2 | 31.15 | 47.0 | 31.41   | 51.4 | 30.93   |
| 28       | 46.0 | 31.17 | 46.9 | 31.45   | 51.6 | 30.82   |
| 29       | 45.9 | 31.15 | 47.0 | 31.33   | 51.7 | 30.96   |
| 30       | 45.4 | 31.49 | 48.0 | * 30.69 | 52.5 | 31.05   |
| 31       | 0    | 0     | 48.6 | 30.05   | 0    | 0       |
| MEANS    | 45.5 | 31.40 | 46.8 | 31.15   | 51.0 | 29.99   |
| OBSVNS.  | 30   | 30    | 31   | 30      | 30   | 29      |
| MAXIMUM  | 47.0 | 31.77 | 49.4 | 31.63   | 54.0 | 31.25   |
| MINIMUM  | 44.2 | 30.44 | 45.4 | 29.62   | 49.0 | 26.53   |
| STD.DEV. | .65  | .31   | .83  | .52     | 1.09 | 1.36    |

TRIPLE ISLAND

54 17 36 N

130 52 40 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP | SAL   | TEMP | SAL     | TEMP | SAL     |
|----------|------|-------|------|---------|------|---------|
| 1        | 52.7 | 30.97 | 55.5 | 30.84   | 55.1 | 30.99   |
| 2        | 53.2 | 30.50 | 56.5 | 30.87   | 53.2 | 31.20   |
| 3        | 52.8 | 29.09 | 57.0 | 30.98   | 53.7 | 31.20   |
| 4        | 54.8 | 24.69 | 58.0 | 31.16   | 54.2 | 31.33   |
| 5        | 55.0 | 26.12 | 56.5 | * 31.20 | 55.0 | 31.33   |
| 6        | 54.5 | 27.92 | 55.5 | 31.24   | 54.9 | 31.30   |
| 7        | 53.8 | 28.95 | 57.0 | 30.99   | 54.6 | 31.33   |
| 8        | 52.8 | 30.19 | 56.2 | 30.94   | 53.9 | 31.16   |
| 9        | 52.2 | 30.56 | 56.5 | 30.87   | 53.7 | 31.32   |
| 10       | 53.1 | 30.49 | 57.0 | 31.00   | 54.0 | 31.26   |
| 11       | 54.1 | 30.43 | 56.0 | 31.24   | 54.4 | 31.22   |
| 12       | 52.9 | 30.46 | 55.7 | 31.21   | 53.6 | * 31.23 |
| 13       | 52.4 | 30.39 | 56.6 | 31.17   | 53.7 | 31.24   |
| 14       | 53.7 | 30.69 | 56.0 | 31.04   | 53.2 | 31.33   |
| 15       | 53.5 | 30.08 | 55.8 | 30.92   | 52.6 | 31.45   |
| 16       | 54.0 | 29.93 | 54.9 | 31.05   | 53.1 | 31.29   |
| 17       | 54.6 | 30.03 | 55.1 | 31.20   | 52.9 | 31.33   |
| 18       | 54.8 | 30.03 | 54.0 | 31.21   | 52.4 | 31.47   |
| 19       | 53.6 | 30.32 | 55.0 | 31.24   | 52.7 | 31.33   |
| 20       | 53.5 | 30.61 | 53.3 | 31.10   | 53.0 | 31.17   |
| 21       | 53.6 | 30.78 | 54.2 | 27.70   | 53.0 | 31.37   |
| 22       | 54.9 | 30.74 | 54.0 | 28.74   | 52.7 | 31.40   |
| 23       | 54.5 | 30.99 | 55.0 | 26.94   | 52.9 | 30.72   |
| 24       | 54.0 | 31.09 | 56.6 | 26.84   | 54.0 | 30.14   |
| 25       | 52.2 | 31.49 | 55.5 | 28.41   | 54.0 | 31.19   |
| 26       | 53.5 | 31.33 | 55.6 | 28.40   | 53.4 | 31.36   |
| 27       | 54.0 | 30.54 | 54.7 | 29.05   | 53.5 | 31.35   |
| 28       | 53.0 | 30.80 | 55.2 | 29.90   | 53.9 | 31.25   |
| 29       | 53.5 | 30.76 | 54.3 | 30.21   | 53.9 | 31.33   |
| 30       | 56.8 | 30.89 | 54.4 | 30.64   | 53.4 | 31.38   |
| 31       | 55.8 | 31.14 | 53.3 | 30.85   | 0    | 0       |
| MEANS    | 53.8 | 30.10 | 55.5 | 30.26   | 53.6 | 31.23   |
| OBSVNS.  | 31   | 31    | 31   | 30      | 30   | 29      |
| MAXIMUM  | 56.8 | 31.49 | 58.0 | 31.24   | 55.1 | 31.47   |
| MINIMUM  | 52.2 | 24.69 | 53.3 | 26.84   | 52.4 | 30.14   |
| STD.DEV. | 1.04 | 1.45  | 1.15 | 1.36    | .72  | .25     |



TRIPLE ISLAND

54 17 36 N

130 52 40 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|-------------|--------|---------|--------|---------|--------|---------|
| 1           | 53.4   | 31.41   | 49.5   | 31.51   | 45.7   | 31.32   |
| 2           | 53.0   | 30.75   | 49.1   | 31.44   | * 45.4 | * 31.30 |
| 3           | 53.2   | 30.95   | 49.2   | 31.36   | 45.0   | 31.27   |
| 4           | 52.3   | 30.82   | 49.1   | 31.43   | 44.5   | 31.50   |
| 5           | 53.1   | 31.41   | 48.9   | 30.67   | 42.5   | 31.50   |
| 6           | 52.8   | 31.43   | 48.0   | 30.72   | 39.0   | 31.56   |
| 7           | 52.0   | 31.32   | 48.0   | 30.77   | 42.1   | 31.57   |
| 8           | * 52.0 | * 31.34 | 47.3   | 29.98   | 42.5   | 31.55   |
| 9           | 52.0   | 31.36   | 47.5   | 31.36   | 44.5   | 31.75   |
| 10          | 51.8   | 31.51   | 47.9   | 31.40   | 44.8   | 31.64   |
| 11          | 51.6   | 31.36   | 47.7   | 31.25   | 45.5   | 31.81   |
| 12          | 51.5   | 31.13   | 47.2   | 31.05   | 46.0   | 31.77   |
| 13          | 50.8   | 31.26   | 47.4   | 31.23   | 45.5   | 31.57   |
| 14          | 51.0   | 31.51   | 47.3   | 31.24   | 45.7   | 31.66   |
| 15          | 50.5   | 31.50   | 47.3   | 31.36   | 46.0   | 31.60   |
| 16          | * 50.5 | * 31.52 | 47.3   | 31.27   | 45.5   | 31.79   |
| 17          | 50.4   | 31.54   | 46.9   | 31.35   | 45.5   | 31.57   |
| 18          | 50.2   | 31.42   | 47.9   | 31.16   | 45.6   | 31.63   |
| 19          | 50.0   | 31.42   | 48.0   | 31.01   | 45.8   | 31.58   |
| 20          | 49.2   | 31.49   | 47.4   | 31.21   | 44.9   | 31.50   |
| 21          | 49.8   | 31.52   | 46.9   | 31.05   | 45.3   | 31.58   |
| 22          | 49.0   | 31.43   | 46.5   | 30.82   | 44.5   | 31.44   |
| 23          | 50.0   | 31.55   | 46.8   | 31.16   | 45.2   | 31.57   |
| 24          | 49.8   | 31.50   | 46.8   | 31.28   | 45.1   | 31.67   |
| 25          | 49.0   | 31.48   | 46.5   | 31.29   | 45.5   | 31.66   |
| 26          | 49.2   | 31.37   | * 46.5 | * 31.26 | 44.9   | 31.61   |
| 27          | 47.7   | 29.01   | 46.5   | 31.24   | 45.1   | 31.59   |
| 28          | 49.4   | 31.34   | 46.4   | 31.07   | 45.0   | 31.54   |
| 29          | 49.6   | 31.38   | 45.5   | 31.11   | 45.5   | 31.76   |
| 30          | 49.4   | 31.33   | 45.8   | 31.14   | 46.1   | 31.74   |
| 31          | 49.4   | 31.45   | 0      | 0       | 45.5   | 31.71   |
| MEANS       | 50.7   | 31.27   | 47.5   | 31.14   | 44.8   | 31.60   |
| OBSVNS.     | 29     | 29      | 29     | 29      | 30     | 30      |
| YRLY. MEANS |        |         |        |         | 48.6   | 31.10   |
| MAXIMUM     | 53.4   | 31.55   | 49.5   | 31.51   | 46.1   | 31.81   |
| MINIMUM     | 47.7   | 29.01   | 45.5   | 29.98   | 39.0   | 31.27   |
| STD. DEV.   | 1.54   | .48     | 1.00   | .31     | 1.48   | .13     |

BONILLA ISLAND

53 29 39 N

130 38 04 W

JANUARY

FEBRUARY

MARCH

1966

| DATE | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|------|--------|---------|--------|---------|--------|---------|
| 1    | * 0    | * 0     | 43.5   | 31.47   | 43.5   | 31.42   |
| 2    | 42.1   | 31.39   | 42.6   | 31.35   | 43.2   | 31.45   |
| 3    | 39.6   | 31.24   | 43.3   | 31.28   | 41.1   | 31.44   |
| 4    | 40.1   | 31.23   | 43.8   | 31.14   | 42.7   | 31.42   |
| 5    | 40.6   | 31.49   | 43.7   | 31.31   | 43.0   | 31.16   |
| 6    | 41.6   | 31.33   | 44.0   | 31.35   | 43.8   | 31.34   |
| 7    | 42.1   | 31.48   | 43.4   | 31.31   | 43.4   | 31.46   |
| 8    | * 42.3 | * 31.40 | 44.6   | 31.26   | 43.2   | 31.39   |
| 9    | 42.5   | 31.32   | 44.1   | 31.39   | 43.6   | 31.39   |
| 10   | 42.9   | 31.19   | 43.9   | 31.15   | 44.0   | 31.48   |
| 11   | 42.4   | 31.36   | 43.7   | 31.30   | 44.2   | 31.52   |
| 12   | 43.3   | 31.25   | 43.9   | 31.29   | 44.0   | 31.15   |
| 13   | * 0    | * 0     | 43.9   | 31.55   | 44.5   | 31.25   |
| 14   | * 0    | * 0     | 44.0   | 31.57   | 45.3   | 31.57   |
| 15   | * 0    | * 0     | 43.8   | 31.14   | 44.8   | 31.43   |
| 16   | 44.2   | 31.19   | 43.9   | 31.23   | 44.0   | 31.61   |
| 17   | 44.1   | 31.42   | 43.5   | 31.28   | 43.7   | 31.36   |
| 18   | 44.4   | 31.42   | 43.1   | 31.16   | 44.2   | 31.43   |
| 19   | 44.2   | 31.51   | 43.8   | 31.11   | 44.3   | 31.48   |
| 20   | 44.0   | 31.28   | 44.9   | 31.28   | 44.6   | 31.56   |
| 21   | 44.2   | 31.32   | 44.5   | 31.05   | 45.1   | 31.47   |
| 22   | 43.3   | 31.39   | * 44.7 | * 31.29 | * 45.4 | * 31.43 |
| 23   | 43.1   | 31.48   | 44.8   | 31.52   | 45.6   | 31.38   |
| 24   | 41.6   | 31.28   | 44.8   | 31.04   | 45.2   | 31.42   |
| 25   | 43.0   | 31.26   | 44.5   | 31.47   | 46.7   | 31.59   |
| 26   | 43.6   | 31.49   | 44.2   | 31.44   | 45.3   | 31.33   |
| 27   | 43.7   | 31.58   | 43.5   | 31.40   | 45.6   | 31.52   |
| 28   | 43.7   | 31.26   | 43.6   | 31.45   | * 45.9 | * 31.51 |
| 29   | 43.8   | 31.51   | 0      | 0       | 46.1   | 31.50   |
| 30   | 44.1   | 31.69   | 0      | 0       | 45.8   | 31.50   |
| 31   | 43.5   | 31.47   | 0      | 0       | 44.8   | 31.45   |

|          |      |       |      |       |      |       |
|----------|------|-------|------|-------|------|-------|
| MEANS    | 42.9 | 31.38 | 43.9 | 31.31 | 44.3 | 31.43 |
| OBSVNS.  | 26   | 26    | 27   | 27    | 29   | 29    |
| MAXIMUM  | 44.4 | 31.69 | 44.9 | 31.57 | 46.7 | 31.61 |
| MINIMUM  | 39.6 | 31.19 | 42.6 | 31.04 | 41.1 | 31.15 |
| STD.DEV. | 1.32 | .13   | .54  | .15   | 1.17 | .11   |

BONILLA ISLAND

53 29 39 N

130 38 04 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|----------|--------|---------|--------|---------|--------|---------|
| 1        | 44.7   | * 31.49 | 46.8   | 31.19   | 50.3   | 31.68   |
| 2        | 45.2   | * 31.54 | 46.6   | 30.93   | 50.0   | 31.55   |
| 3        | 46.6   | 31.58   | 47.5   | 31.19   | 51.2   | 31.68   |
| 4        | 47.3   | 31.61   | 49.4   | 31.30   | 53.8   | 31.45   |
| 5        | 47.2   | 31.68   | 50.0   | 31.33   | 54.8   | 31.06   |
| 6        | 48.5   | 31.68   | * 48.8 | * 31.13 | 51.3   | 31.09   |
| 7        | 46.6   | 31.70   | 47.6   | 30.94   | * 50.8 | * 31.25 |
| 8        | 47.4   | 31.61   | 49.2   | 31.31   | 50.3   | 31.41   |
| 9        | 46.4   | 31.58   | 49.4   | 31.39   | 50.2   | 31.34   |
| 10       | 45.4   | 31.61   | 50.0   | 31.38   | * 50.5 | * 31.30 |
| 11       | 45.5   | 31.32   | 50.1   | 30.65   | 50.7   | 31.25   |
| 12       | 45.2   | 31.20   | 49.5   | 31.32   | 49.7   | 31.14   |
| 13       | 44.1   | 31.14   | 46.4   | 31.32   | 51.3   | 29.84   |
| 14       | 44.7   | 31.06   | 46.8   | 31.32   | 52.2   | 30.77   |
| 15       | 45.2   | 31.10   | 47.3   | 31.38   | 52.2   | 30.70   |
| 16       | 45.3   | 31.03   | 47.7   | 31.50   | 50.3   | 30.88   |
| 17       | 45.5   | 31.34   | * 47.8 | * 31.29 | 51.0   | 30.82   |
| 18       | 46.0   | 31.59   | 47.9   | 31.09   | 50.8   | 30.46   |
| 19       | 46.0   | 31.60   | 47.5   | 31.35   | 51.4   | 30.60   |
| 20       | 46.7   | 31.58   | 47.9   | 31.36   | 52.5   | 31.10   |
| 21       | 46.2   | 31.52   | 49.1   | 31.55   | 52.0   | 31.03   |
| 22       | * 47.1 | * 31.52 | 47.8   | 31.25   | 55.4   | 31.25   |
| 23       | * 48.1 | * 31.52 | 48.6   | 31.55   | 53.6   | 31.31   |
| 24       | 49.0   | 31.52   | 48.3   | 31.02   | 54.9   | 31.42   |
| 25       | 46.8   | 31.47   | 48.0   | 31.40   | * 54.3 | * 31.39 |
| 26       | 47.1   | 31.63   | 48.0   | 31.52   | 53.7   | 31.35   |
| 27       | 48.9   | 31.55   | 48.1   | 31.55   | 51.9   | 30.94   |
| 28       | 47.3   | 31.52   | 47.6   | 31.54   | 50.3   | 30.96   |
| 29       | 46.1   | 31.55   | 47.7   | 31.58   | 51.6   | 31.20   |
| 30       | 46.2   | 31.42   | 47.3   | 32.18   | 53.4   | 31.15   |
| 31       | 0      | 0       | 48.3   | 31.73   | 0      | 0       |
| MEANS    | 46.3   | 31.47   | 48.2   | 31.35   | 51.9   | 31.09   |
| OBSVNS.  | 28     | 26      | 29     | 29      | 27     | 27      |
| MAXIMUM  | 49.0   | 31.70   | 50.1   | 32.18   | 55.4   | 31.68   |
| MINIMUM  | 44.1   | 31.03   | 46.4   | 30.65   | 49.7   | 29.84   |
| STD.DEV. | 1.23   | .20     | 1.04   | .28     | 1.63   | .40     |

BONILLA ISLAND

53 29 39 N

130 38 04 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|----------|--------|---------|--------|---------|--------|---------|
| 1        | 53.1   | 31.17   | 57.3   | 31.19   | 55.2   | 30.96   |
| 2        | 53.4   | 31.28   | 55.5   | 31.27   | 55.4   | 31.14   |
| 3        | 53.8   | 31.46   | 56.8   | 31.35   | 53.5   | 31.19   |
| 4        | 53.6   | 31.19   | 55.8   | 31.43   | 54.1   | 30.83   |
| 5        | 51.4   | 31.60   | 57.8   | 31.78   | 54.0   | 30.75   |
| 6        | 50.9   | 31.73   | 61.5   | 31.12   | 54.0   | 30.85   |
| 7        | 51.4   | 31.41   | 56.5   | 30.49   | 54.0   | 31.14   |
| 8        | 50.8   | 31.05   | 55.7   | 31.17   | 53.9   | 30.79   |
| 9        | 51.4   | 31.15   | 55.5   | 31.07   | 53.0   | 31.15   |
| 10       | * 52.4 | * 31.22 | 55.8   | 30.66   | 53.5   | 30.88   |
| 11       | 53.4   | 31.30   | 55.5   | 31.11   | 53.8   | 31.25   |
| 12       | 52.9   | 31.13   | 55.9   | 30.98   | 54.3   | 31.35   |
| 13       | 53.6   | 30.69   | 55.5   | 30.77   | 53.0   | 31.35   |
| 14       | 53.5   | 30.43   | 56.4   | 30.96   | 53.3   | 31.43   |
| 15       | * 53.7 | * 30.62 | 56.2   | 31.10   | * 53.7 | * 31.33 |
| 16       | 53.9   | 30.81   | 57.8   | 31.18   | * 54.0 | * 31.22 |
| 17       | 55.5   | 30.96   | 57.3   | 31.26   | 54.4   | 31.11   |
| 18       | 55.9   | 31.04   | 54.0   | 31.55   | 54.8   | 31.11   |
| 19       | 53.5   | 31.01   | 54.2   | 31.62   | 55.6   | 31.04   |
| 20       | 54.7   | 31.36   | 52.3   | 31.76   | 53.7   | 31.13   |
| 21       | 55.4   | 31.18   | 51.5   | 31.80   | 54.6   | 30.99   |
| 22       | 55.0   | 31.41   | 51.5   | 31.93   | 54.5   | 31.06   |
| 23       | 55.9   | 31.42   | 52.4   | 31.83   | 55.6   | 31.14   |
| 24       | 55.7   | 31.20   | 51.2   | 31.85   | 55.3   | 31.18   |
| 25       | 54.7   | 32.35   | 52.0   | 31.22   | 53.8   | 31.21   |
| 26       | 55.3   | 31.22   | 51.2   | 30.95   | 53.9   | 31.18   |
| 27       | 53.5   | 31.62   | 51.9   | 31.11   | 53.8   | 31.02   |
| 28       | 55.3   | 31.38   | 54.0   | 31.55   | 54.1   | 31.23   |
| 29       | 55.3   | 31.51   | 53.5   | 31.48   | 53.9   | 31.26   |
| 30       | 53.7   | 31.58   | 54.0   | 31.10   | 54.4   | 31.11   |
| 31       | 55.0   | 30.96   | * 54.6 | * 31.03 | 0      | 0       |
| MEANS    | 53.8   | 31.26   | 54.9   | 31.29   | 54.2   | 31.10   |
| OBSVNS.  | 29     | 29      | 30     | 30      | 28     | 28      |
| MAXIMUM  | 55.9   | 32.35   | 61.5   | 31.93   | 55.6   | 31.43   |
| MINIMUM  | 50.8   | 30.43   | 51.2   | 30.49   | 53.0   | 30.75   |
| STD.DEV. | 1.53   | .36     | 2.44   | .37     | .72    | .17     |

BONILLA ISLAND

53 29 39 N

130 38 04 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|-------------|--------|---------|--------|---------|--------|---------|
| 1           | 54.1   | 31.40   | 49.4   | 30.95   | 45.1   | 30.94   |
| 2           | 54.7   | 31.40   | 48.6   | 30.68   | 44.4   | 30.83   |
| 3           | 53.8   | 31.32   | 49.4   | 30.83   | 45.0   | 31.28   |
| 4           | 52.9   | 31.49   | 49.4   | 30.70   | * 44.3 | * 31.38 |
| 5           | 53.2   | 31.16   | 48.7   | 31.28   | 43.6   | 31.47   |
| 6           | 52.7   | 31.36   | 48.6   | 31.33   | 42.8   | 31.49   |
| 7           | 52.6   | 30.97   | 48.2   | 31.34   | 41.2   | 31.33   |
| 8           | 52.4   | 31.00   | 47.9   | 30.87   | 42.4   | 31.40   |
| 9           | 51.7   | 30.77   | 46.8   | 31.22   | 41.6   | 31.32   |
| 10          | 51.5   | 30.98   | 47.3   | 31.32   | 42.3   | 31.32   |
| 11          | 51.3   | 30.93   | 46.6   | 30.72   | 44.8   | 31.22   |
| 12          | 52.6   | 31.33   | 46.2   | 30.45   | 45.2   | 31.30   |
| 13          | * 52.1 | * 31.27 | 46.6   | 30.41   | 45.7   | 31.32   |
| 14          | 51.6   | 31.20   | 46.6   | 30.39   | 45.1   | 31.18   |
| 15          | 51.5   | 31.17   | * 47.0 | * 30.54 | 45.8   | 31.27   |
| 16          | 51.6   | 31.30   | 47.4   | 30.68   | 45.0   | 31.30   |
| 17          | 51.1   | 31.36   | 46.8   | 30.83   | 42.4   | 30.96   |
| 18          | 50.4   | 31.41   | 47.1   | 30.97   | 45.1   | 31.18   |
| 19          | 51.2   | 31.43   | 47.2   | 30.72   | 44.8   | 31.27   |
| 20          | 49.4   | 31.51   | * 46.7 | * 30.81 | 44.7   | 31.27   |
| 21          | 48.4   | 31.37   | 46.1   | 30.89   | 44.8   | 31.05   |
| 22          | 48.7   | 31.30   | 45.8   | 30.93   | 45.0   | 31.22   |
| 23          | 49.1   | 31.11   | 46.0   | 30.82   | 44.9   | 31.43   |
| 24          | 49.6   | 31.30   | 46.7   | 30.52   | 45.2   | 31.53   |
| 25          | 48.7   | 31.48   | 46.4   | 30.89   | 44.6   | 31.59   |
| 26          | 48.8   | 31.60   | 46.1   | 30.95   | 43.3   | 31.57   |
| 27          | 48.4   | 31.53   | 46.4   | 30.93   | 43.6   | 31.24   |
| 28          | 48.7   | 31.42   | 46.0   | 30.92   | 45.3   | 31.12   |
| 29          | 49.8   | 31.40   | 45.2   | 30.96   | 45.1   | 31.52   |
| 30          | 48.9   | 31.33   | 44.9   | 30.90   | 45.4   | 31.49   |
| 31          | 48.8   | 30.85   | 0      | 0       | 45.1   | 31.47   |
| MEANS       | 50.9   | 31.27   | 47.1   | 30.87   | 44.3   | 31.30   |
| OBSVNS.     | 30     | 30      | 28     | 28      | 30     | 30      |
| YRLY. MEANS |        |         |        |         | 48.6   | 31.26   |
| MAXIMUM     | 54.7   | 31.60   | 49.4   | 31.34   | 45.8   | 31.59   |
| MINIMUM     | 48.4   | 30.77   | 44.9   | 30.39   | 41.2   | 30.83   |
| STD. DEV.   | 1.90   | .21     | 1.25   | .26     | 1.27   | .19     |



MCINNES ISLAND

52 15 48 N

128 43 10 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     |   | TEMP | SAL     |   | TEMP | SAL     |   | TEMP | SAL     |
|----------|---|------|---------|---|------|---------|---|------|---------|
| 1        | * | 44.2 | * 30.92 |   | 43.3 | 30.66   |   | 43.5 | 30.62   |
| 2        |   | 44.3 | 31.01   | * | 44.2 | * 30.85 |   | 42.5 | 30.25   |
| 3        | * | 43.3 | * 30.90 |   | 45.0 | 31.04   | * | 42.7 | * 30.18 |
| 4        |   | 42.3 | 30.79   |   | 43.3 | 30.38   | * | 42.8 | * 30.11 |
| 5        |   | 43.0 | 30.89   | * | 43.9 | * 30.65 |   | 43.0 | 30.04   |
| 6        |   | 42.3 | 30.83   |   | 44.5 | 30.88   | * | 43.7 | * 30.49 |
| 7        |   | 42.3 | 30.77   |   | 43.5 | 30.51   |   | 44.5 | 30.95   |
| 8        |   | 43.5 | 30.97   |   | 44.0 | 30.77   |   | 44.8 | 31.06   |
| 9        |   | 43.0 | 30.78   |   | 44.5 | 30.91   |   | 45.0 | 31.25   |
| 10       |   | 43.3 | 30.78   | * | 44.7 | * 30.84 | * | 45.0 | * 31.22 |
| 11       | * | 43.9 | * 30.93 |   | 44.8 | 30.77   |   | 45.0 | 31.18   |
| 12       | * | 44.5 | * 31.09 |   | 44.3 | 30.79   |   | 44.3 | 30.86   |
| 13       |   | 45.1 | 31.24   | * | 44.2 | * 30.87 |   | 44.8 | 31.08   |
| 14       |   | 45.0 | 31.22   |   | 44.0 | 30.95   |   | 44.8 | 31.03   |
| 15       |   | 45.0 | 31.01   |   | 42.8 | 30.67   |   | 44.3 | 30.59   |
| 16       |   | 45.1 | 31.17   |   | 43.5 | 30.49   | * | 44.4 | * 30.78 |
| 17       | * | 44.7 | * 31.09 |   | 43.5 | 30.48   |   | 44.5 | 30.96   |
| 18       |   | 44.2 | 31.01   |   | 43.5 | 30.28   | * | 44.7 | * 31.10 |
| 19       |   | 44.3 | 31.06   |   | 43.8 | 30.33   |   | 44.8 | 31.25   |
| 20       |   | 44.7 | 31.06   |   | 44.3 | 30.63   |   | 44.5 | 30.92   |
| 21       | * | 44.9 | * 31.13 |   | 45.0 | 31.00   |   | 44.8 | 30.84   |
| 22       |   | 45.0 | 31.20   |   | 45.0 | 30.98   | * | 44.9 | * 31.09 |
| 23       |   | 43.5 | 30.76   |   | 45.5 | 31.34   |   | 45.0 | 31.34   |
| 24       |   | 43.0 | 30.61   |   | 45.3 | 31.23   |   | 44.8 | 30.91   |
| 25       |   | 43.0 | 30.49   |   | 45.5 | 31.47   |   | 44.3 | 30.60   |
| 26       |   | 42.8 | 30.32   |   | 45.5 | 31.18   |   | 44.3 | 30.60   |
| 27       |   | 42.8 | 30.38   |   | 44.0 | 30.56   |   | 44.5 | 30.59   |
| 28       |   | 43.5 | 30.72   |   | 44.3 | 30.78   | * | 44.8 | * 30.81 |
| 29       |   | 44.0 | 30.75   |   | 0    | 0       | * | 45.0 | * 31.04 |
| 30       |   | 43.3 | 30.50   |   | 0    | 0       |   | 45.3 | 31.26   |
| 31       |   | 43.5 | 30.51   |   | 0    | 0       |   | 45.0 | 30.79   |
| MEANS    |   | 43.7 | 30.83   |   | 44.3 | 30.80   |   | 44.5 | 30.86   |
| OBSVNS.  |   | 25   | 25      |   | 24   | 24      |   | 22   | 22      |
| MAXIMUM  |   | 45.1 | 31.24   |   | 45.5 | 31.47   |   | 45.3 | 31.34   |
| MINIMUM  |   | 42.3 | 30.32   |   | 42.8 | 30.28   |   | 42.5 | 30.04   |
| STD.DEV. |   | .93  | .26     |   | .79  | .32     |   | .67  | .33     |

MCINNES ISLAND

52 15 48 N

128 43 10 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP   | SAL     |   | TEMP | SAL     | TEMP   | SAL     |
|----------|--------|---------|---|------|---------|--------|---------|
| 1        | 44.8   | 30.78   | * | 46.3 | * 31.05 | 50.5   | 27.52   |
| 2        | 45.0   | 30.22   |   | 46.0 | 31.13   | 51.0   | 28.16   |
| 3        | 45.5   | 28.50   |   | 47.0 | 30.86   | 50.3   | 28.72   |
| 4        | 45.5   | 28.61   |   | 48.0 | 30.12   | 51.0   | 29.25   |
| 5        | 46.5   | 28.16   |   | 50.3 | 29.96   | 51.5   | 29.27   |
| 6        | 46.0   | 29.28   |   | 48.3 | 30.27   | 52.3   | 28.63   |
| 7        | 45.5   | 29.95   |   | 48.5 | 30.42   | 50.5   | 29.83   |
| 8        | 45.8   | 30.16   |   | 48.0 | 30.63   | 48.8   | 30.27   |
| 9        | * 45.5 | * 30.25 |   | 48.0 | 30.63   | 50.3   | 29.99   |
| 10       | * 45.1 | * 30.34 |   | 48.5 | 30.76   | 50.3   | 29.70   |
| 11       | 44.8   | 30.43   |   | 47.5 | 30.82   | 49.5   | 30.20   |
| 12       | 45.0   | 30.32   |   | 48.0 | 31.00   | 49.3   | 30.26   |
| 13       | * 45.4 | * 30.86 |   | 48.8 | 31.10   | * 51.4 | * 28.77 |
| 14       | 45.8   | 31.39   |   | 47.8 | 30.99   | * 53.6 | * 27.27 |
| 15       | 45.5   | 30.69   |   | 47.5 | 31.27   | 55.5   | 25.78   |
| 16       | 45.5   | 30.61   |   | 47.3 | 31.35   | 54.0   | 26.98   |
| 17       | 45.5   | 30.23   | * | 47.6 | * 31.18 | 52.5   | 29.31   |
| 18       | 45.5   | 30.27   |   | 47.8 | 31.02   | 52.5   | 30.66   |
| 19       | 45.5   | 30.16   |   | 48.0 | 31.12   | 53.0   | 30.45   |
| 20       | 46.0   | 30.18   |   | 48.0 | 31.38   | 53.0   | 30.49   |
| 21       | 46.3   | 30.13   |   | 48.3 | 31.14   | 53.0   | 30.62   |
| 22       | 45.8   | 30.34   |   | 48.0 | 30.64   | 53.5   | 29.78   |
| 23       | 46.3   | 30.44   |   | 48.5 | 31.12   | 54.5   | 28.61   |
| 24       | 46.8   | 30.27   |   | 47.8 | 30.82   | 55.0   | 28.46   |
| 25       | * 46.4 | * 30.53 |   | 48.0 | 31.16   | 55.5   | 28.22   |
| 26       | 46.0   | 30.79   |   | 48.5 | 30.32   | 53.5   | 30.33   |
| 27       | 46.0   | 30.89   |   | 47.8 | 30.74   | * 53.1 | * 30.69 |
| 28       | 46.5   | 30.80   |   | 48.3 | 30.41   | * 52.7 | * 31.04 |
| 29       | 46.5   | 30.83   |   | 49.0 | 26.35   | 52.3   | 31.40   |
| 30       | 46.5   | 30.97   |   | 48.8 | 28.32   | 54.0   | 29.02   |
| 31       | 0      | 0       |   | 49.0 | 27.37   | 0      | 0       |
| MEANS    | 45.8   | 30.21   |   | 48.1 | 30.46   | 52.2   | 29.30   |
| OBSVNS.  | 26     | 26      |   | 29   | 29      | 26     | 26      |
| MAXIMUM  | 46.8   | 31.39   |   | 50.3 | 31.38   | 55.5   | 31.40   |
| MINIMUM  | 44.8   | 28.16   |   | 46.0 | 26.35   | 48.8   | 25.78   |
| STD.DEV. | .55    | .77     |   | .75  | 1.16    | 1.94   | 1.28    |

MCINNES ISLAND

52 15 48 N

128 43 10 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|----------|--------|---------|--------|---------|--------|---------|
| 1        | 54.8   | 28.68   | 55.8   | 30.27   | 55.8   | 31.15   |
| 2        | 55.3   | 28.19   | 54.8   | 30.24   | 56.5   | 30.31   |
| 3        | 54.0   | 29.01   | 55.3   | 29.90   | 55.5   | 31.18   |
| 4        | 54.0   | 29.52   | 57.8   | 29.61   | 55.8   | 31.43   |
| 5        | 54.5   | 29.39   | 59.0   | 29.56   | 55.8   | 29.89   |
| 6        | 54.5   | 29.47   | 59.0   | 29.47   | 56.5   | 29.67   |
| 7        | 54.3   | 29.08   | 57.3   | 29.53   | 56.5   | 29.34   |
| 8        | 52.5   | 29.93   | 56.0   | 29.81   | 54.8   | 29.19   |
| 9        | 54.0   | 28.93   | 55.0   | 29.94   | 55.0   | 30.40   |
| 10       | 54.0   | 30.09   | 55.8   | 30.22   | 55.3   | 28.54   |
| 11       | 56.5   | 29.06   | 57.3   | 29.14   | 55.3   | 28.27   |
| 12       | 55.0   | 29.71   | * 57.3 | * 29.39 | 55.0   | 27.66   |
| 13       | 54.8   | 29.18   | 57.3   | 29.64   | 54.8   | 28.03   |
| 14       | 54.0   | 29.65   | 56.3   | 29.53   | 54.5   | 28.45   |
| 15       | 54.5   | 30.07   | 55.3   | 30.44   | 54.5   | 29.34   |
| 16       | 55.0   | 30.22   | 56.8   | 29.53   | 54.5   | 30.03   |
| 17       | 57.5   | 27.14   | 58.0   | 28.28   | * 54.0 | * 30.61 |
| 18       | 57.0   | 27.24   | 56.0   | 28.73   | 53.5   | 31.20   |
| 19       | 53.5   | 29.65   | 56.3   | 28.69   | 52.5   | 31.29   |
| 20       | 52.5   | 30.17   | 56.5   | 28.87   | 53.3   | 30.31   |
| 21       | 55.0   | 29.91   | 55.8   | 29.60   | 54.0   | 29.97   |
| 22       | 58.5   | 28.82   | 54.5   | 29.55   | 55.0   | 29.82   |
| 23       | 56.5   | 29.54   | 55.8   | 29.27   | 54.5   | 29.01   |
| 24       | 57.5   | 28.98   | 54.5   | 29.75   | 54.8   | 28.56   |
| 25       | 57.0   | 29.43   | 55.5   | 29.28   | 55.0   | 28.13   |
| 26       | 56.0   | 30.07   | 55.0   | 29.04   | 53.5   | 29.42   |
| 27       | * 55.7 | * 30.17 | 54.5   | 30.54   | 53.0   | 31.08   |
| 28       | * 55.3 | * 30.28 | 55.8   | 29.31   | 53.0   | 30.83   |
| 29       | 55.0   | 30.38   | 56.3   | 30.35   | 54.0   | 30.00   |
| 30       | 55.3   | 30.25   | 56.8   | 29.87   | 53.8   | 29.39   |
| 31       | 56.0   | 30.08   | 55.5   | 31.09   | 0      | 0       |
| MEANS    | 55.1   | 29.37   | 56.2   | 29.63   | 54.7   | 29.72   |
| OBSVNS.  | 29     | 29      | 30     | 30      | 29     | 29      |
| MAXIMUM  | 58.5   | 30.38   | 59.0   | 31.09   | 56.5   | 31.43   |
| MINIMUM  | 52.5   | 27.14   | 54.5   | 28.28   | 52.5   | 27.66   |
| STD.DEV. | 1.46   | .81     | 1.22   | .61     | 1.08   | 1.10    |

MCINNES ISLAND

52 15 48 N

128 43 10 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|-------------|--------|---------|--------|---------|--------|---------|
| 1           | 53.8   | 30.12   | 48.8   | 29.16   | 45.0   | 29.83   |
| 2           | 53.0   | 29.19   | 48.8   | 28.98   | 45.5   | 30.03   |
| 3           | 52.5   | 29.44   | 49.0   | 29.39   | 45.3   | 30.04   |
| 4           | 52.5   | 29.46   | 49.3   | 28.80   | 45.3   | 30.42   |
| 5           | * 52.0 | * 29.78 | 48.0   | 28.51   | * 44.9 | * 30.35 |
| 6           | 51.5   | 30.10   | * 47.4 | * 28.50 | 44.5   | 30.28   |
| 7           | * 51.7 | * 30.36 | 46.8   | 28.49   | 44.3   | 30.51   |
| 8           | 51.8   | 30.61   | 46.3   | 27.05   | 44.3   | 30.56   |
| 9           | 52.5   | 30.93   | 48.3   | 30.35   | 44.8   | 30.83   |
| 10          | 52.5   | 30.97   | 47.0   | 28.43   | 45.5   | 31.04   |
| 11          | 52.0   | 30.74   | 46.0   | 28.10   | 45.5   | 31.17   |
| 12          | 51.0   | 29.29   | 46.5   | 28.68   | 45.3   | 30.88   |
| 13          | 50.5   | 29.35   | 46.3   | 28.90   | 45.0   | 30.98   |
| 14          | * 50.9 | * 29.73 | 46.8   | 29.76   | 45.5   | 31.00   |
| 15          | 51.3   | 30.11   | 46.5   | 29.56   | 46.8   | 31.69   |
| 16          | * 50.9 | * 30.21 | 46.3   | 29.25   | 46.0   | 31.16   |
| 17          | 50.5   | 30.31   | 46.0   | 29.10   | 46.5   | 31.47   |
| 18          | * 50.7 | * 30.81 | * 46.3 | * 29.63 | 46.5   | 31.45   |
| 19          | 51.0   | 31.30   | 46.5   | 30.17   | 46.0   | 31.10   |
| 20          | 50.5   | 31.12   | 46.3   | 30.18   | 45.8   | 30.85   |
| 21          | 50.3   | 30.71   | 47.0   | 30.17   | 45.5   | 30.85   |
| 22          | 49.3   | 30.43   | 46.0   | 29.31   | 45.5   | 30.91   |
| 23          | 50.5   | 31.21   | 46.3   | * 29.75 | 45.0   | 29.92   |
| 24          | * 50.2 | * 30.89 | 46.8   | 30.19   | 44.8   | 29.06   |
| 25          | 49.8   | 30.39   | 46.8   | 30.37   | 43.5   | 28.16   |
| 26          | 48.5   | 28.90   | 46.5   | 30.30   | 43.5   | 28.82   |
| 27          | 48.0   | 28.28   | 46.8   | 30.36   | 44.8   | 30.12   |
| 28          | 48.3   | 28.26   | 45.5   | 30.04   | 47.0   | 31.51   |
| 29          | 49.6   | 30.75   | 44.8   | 29.28   | 45.5   | 30.82   |
| 30          | * 49.2 | * 29.82 | 45.0   | 29.62   | 44.8   | 30.02   |
| 31          | 48.5   | 28.90   | 0      | 0       | 45.5   | 30.61   |
| MEANS       | 50.8   | 30.04   | 46.8   | 29.35   | 45.3   | 30.54   |
| OBSVNS.     | 24     | 24      | 28     | 27      | 30     | 30      |
| YRLY. MEANS |        |         |        |         | 49.2   | 30.07   |
| MAXIMUM     | 53.8   | 31.30   | 49.3   | 30.37   | 47.0   | 31.69   |
| MINIMUM     | 48.0   | 28.26   | 44.8   | 27.05   | 43.5   | 28.16   |
| STD. DEV.   | 1.59   | .91     | 1.14   | .83     | .83    | .81     |

CAPE ST. JAMES

51 56 18 N

131 00 50 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP   | SAL     |   | TEMP | SAL     |   | TEMP | SAL     |
|----------|--------|---------|---|------|---------|---|------|---------|
| 1        | 45.8   | 32.06   |   | 45.7 | 32.08   | * | 45.0 | * 32.25 |
| 2        | 46.2   | 32.10   | * | 45.8 | * 32.07 |   | 44.7 | 32.22   |
| 3        | 45.7   | 32.13   | * | 45.9 | * 32.05 |   | 44.9 | 32.20   |
| 4        | 45.6   | 32.10   |   | 46.0 | 32.03   |   | 45.5 | 32.13   |
| 5        | 46.5   | 32.13   |   | 45.9 | 32.17   |   | 45.7 | 32.43   |
| 6        | 46.2   | 32.14   |   | 45.9 | 32.14   |   | 45.6 | 32.33   |
| 7        | * 46.1 | * 32.15 |   | 45.7 | 32.15   |   | 45.4 | 32.33   |
| 8        | 46.0   | 32.15   |   | 45.8 | 32.26   |   | 45.2 | 32.24   |
| 9        | 46.2   | 32.16   |   | 46.0 | 32.18   |   | 45.3 | 32.38   |
| 10       | 45.9   | 32.16   |   | 46.3 | 31.97   |   | 45.0 | 32.44   |
| 11       | 45.8   | 32.08   |   | 46.1 | 32.13   |   | 45.4 | 32.35   |
| 12       | 45.9   | 32.10   |   | 45.9 | 32.18   |   | 45.5 | * 32.29 |
| 13       | 45.7   | 32.05   |   | 45.8 | 32.19   |   | 45.4 | 32.22   |
| 14       | * 45.8 | * 32.08 |   | 45.7 | 32.16   |   | 45.7 | 32.12   |
| 15       | 45.8   | 32.11   |   | 45.7 | 32.10   |   | 45.5 | 32.18   |
| 16       | 45.8   | 32.71   |   | 45.8 | 32.13   |   | 45.2 | 32.17   |
| 17       | 45.4   | 32.32   |   | 45.9 | 32.11   |   | 45.3 | 32.28   |
| 18       | * 45.5 | * 32.21 |   | 45.8 | 32.11   |   | 45.4 | 32.23   |
| 19       | 45.7   | 32.11   |   | 46.0 | 32.09   | * | 45.3 | * 32.22 |
| 20       | 45.8   | 32.03   |   | 46.2 | 32.12   |   | 45.2 | 32.22   |
| 21       | 46.4   | 32.13   | * | 46.3 | * 32.21 |   | 45.1 | 32.19   |
| 22       | 46.2   | 32.00   |   | 46.4 | 32.30   |   | 45.3 | 32.08   |
| 23       | 45.4   | 31.97   |   | 45.8 | 32.56   |   | 45.6 | 32.12   |
| 24       | 46.3   | 32.07   |   | 45.5 | 32.63   |   | 45.8 | 32.12   |
| 25       | 46.4   | 32.55   |   | 45.7 | 32.54   | * | 45.8 | * 32.08 |
| 26       | 46.4   | 32.23   |   | 45.4 | 32.45   |   | 45.8 | 32.03   |
| 27       | 46.2   | 32.22   |   | 45.2 | 32.29   |   | 45.7 | 32.15   |
| 28       | 46.2   | 32.02   |   | 45.3 | 32.28   |   | 45.7 | 32.45   |
| 29       | 46.7   | 32.13   |   | 0    | 0       |   | 45.7 | 32.18   |
| 30       | 46.3   | 32.02   |   | 0    | 0       |   | 45.7 | 32.24   |
| 31       | 45.9   | 31.99   |   | 0    | 0       |   | 45.5 | 32.25   |
| MEANS    | 46.0   | 32.14   |   | 45.8 | 32.21   |   | 45.4 | 32.23   |
| OBSVNS.  | 28     | 28      |   | 25   | 25      |   | 28   | 27      |
| MAXIMUM  | 46.7   | 32.71   |   | 46.4 | 32.63   |   | 45.8 | 32.45   |
| MINIMUM  | 45.4   | 31.97   |   | 45.2 | 31.97   |   | 44.7 | 32.03   |
| STD.DEV. | .33    | .16     |   | .28  | .17     |   | .28  | .11     |



CAPE ST. JAMES

51 56 18 N

131 00 50 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP   | SAL     |   | TEMP | SAL     |   | TEMP | SAL     |
|----------|--------|---------|---|------|---------|---|------|---------|
| 1        | 45.5   | 32.00   | * | 45.8 | * 32.24 | * | 48.5 | * 31.82 |
| 2        | 45.6   | 32.19   |   | 45.7 | 32.40   |   | 48.7 | 31.82   |
| 3        | 46.5   | 32.05   |   | 45.7 | 32.65   |   | 47.9 | 31.91   |
| 4        | 46.3   | 32.07   |   | 46.5 | 32.33   |   | 48.5 | 32.19   |
| 5        | 46.5   | 32.01   |   | 46.9 | 32.34   |   | 48.9 | 32.14   |
| 6        | 46.9   | 32.10   |   | 46.4 | 32.27   |   | 49.0 | 32.19   |
| 7        | 46.3   | 32.13   | * | 0    | * 0     |   | 48.8 | 32.18   |
| 8        | 46.3   | 32.03   | * | 0    | * 0     |   | 48.9 | 32.10   |
| 9        | 46.4   | 32.14   | * | 0    | * 0     | * | 48.8 | * 32.16 |
| 10       | * 46.1 | * 32.08 |   | 47.3 | 32.26   | * | 48.6 | * 32.23 |
| 11       | 45.8   | 32.03   |   | 46.7 | 32.36   |   | 48.4 | 32.29   |
| 12       | 45.4   | 32.00   |   | 46.4 | 32.24   |   | 48.7 | 32.15   |
| 13       | 45.4   | 32.05   |   | 46.4 | 32.15   |   | 48.7 | 32.21   |
| 14       | 45.7   | 32.18   |   | 46.5 | 31.99   | * | 49.2 | * 32.08 |
| 15       | 45.8   | 32.08   |   | 46.6 | 32.10   |   | 49.7 | 31.95   |
| 16       | 45.9   | 32.03   |   | 46.5 | 32.22   |   | 50.6 | 32.02   |
| 17       | 45.9   | 32.03   |   | 47.0 | 32.12   |   | 48.9 | 32.00   |
| 18       | 46.2   | 31.93   |   | 46.8 | 32.15   |   | 48.8 | 32.25   |
| 19       | * 46.0 | * 32.00 |   | 46.7 | 32.19   |   | 49.2 | 32.26   |
| 20       | 45.8   | 32.07   |   | 46.6 | 32.30   |   | 48.4 | 32.18   |
| 21       | 45.8   | 32.11   |   | 46.8 | 32.18   |   | 49.6 | 32.28   |
| 22       | 45.8   | 32.09   |   | 46.5 | 32.11   |   | 51.7 | 32.32   |
| 23       | 46.3   | 32.20   |   | 47.3 | 32.12   |   | 50.8 | 32.29   |
| 24       | 46.2   | 32.13   | * | 47.1 | * 32.14 |   | 49.8 | 32.29   |
| 25       | 46.4   | 32.08   | * | 46.9 | * 32.16 |   | 51.0 | 32.28   |
| 26       | * 46.4 | * 32.04 |   | 46.7 | 32.18   |   | 51.4 | 32.27   |
| 27       | 46.4   | 32.01   |   | 46.8 | 32.10   |   | 50.0 | 31.91   |
| 28       | * 46.3 | * 32.04 |   | 46.4 | 32.29   |   | 48.9 | 32.04   |
| 29       | * 46.1 | * 32.07 |   | 46.6 | 31.99   |   | 49.8 | 32.26   |
| 30       | 45.9   | 32.09   |   | 47.3 | 31.50   | * | 50.5 | * 32.29 |
| 31       | 0      | 0       |   | 48.3 | 31.81   |   | 0    | 0       |
| MEANS    | 46.0   | 32.07   |   | 46.7 | 32.17   |   | 49.4 | 32.15   |
| OBSVNS.  | 25     | 25      |   | 25   | 25      |   | 25   | 25      |
| MAXIMUM  | 46.9   | 32.20   |   | 48.3 | 32.65   |   | 51.7 | 32.32   |
| MINIMUM  | 45.4   | 31.93   |   | 45.7 | 31.50   |   | 47.9 | 31.82   |
| STD.DEV. | .39    | .07     |   | .51  | .21     |   | 1.01 | .14     |

CAPE ST. JAMES

51 56 18 N 131 00 50 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP   | SAL     |   | TEMP | SAL     |   | TEMP | SAL     |
|----------|--------|---------|---|------|---------|---|------|---------|
| 1        | 51.2   | 32.31   |   | 52.3 | 31.91   | * | 53.8 | * 31.82 |
| 2        | 52.7   | 32.18   | * | 52.8 | * 31.93 |   | 53.4 | 31.93   |
| 3        | 52.9   | 32.15   | * | 53.4 | * 31.95 |   | 53.1 | 31.99   |
| 4        | 52.6   | 32.14   |   | 53.9 | 31.97   |   | 52.4 | 32.08   |
| 5        | 52.3   | 32.18   |   | 55.5 | 31.88   | * | 52.8 | * 32.05 |
| 6        | 54.6   | 31.98   |   | 55.2 | 31.77   |   | 53.2 | 32.01   |
| 7        | 54.3   | 32.07   |   | 52.7 | 32.01   |   | 53.0 | 31.91   |
| 8        | 53.8   | 31.97   |   | 53.2 | 31.72   | * | 52.2 | * 31.98 |
| 9        | 52.5   | 32.04   | * | 52.0 | * 31.91 |   | 51.5 | 32.06   |
| 10       | 53.8   | 32.00   |   | 50.8 | 32.10   | * | 51.7 | * 32.09 |
| 11       | 52.6   | 31.95   |   | 52.2 | 31.89   |   | 51.8 | 32.12   |
| 12       | 54.1   | 31.82   | * | 52.0 | * 32.02 | * | 52.5 | * 31.98 |
| 13       | 55.0   | 31.67   |   | 51.8 | 32.14   |   | 53.2 | 31.83   |
| 14       | 55.2   | 31.76   |   | 52.0 | 31.95   |   | 52.8 | 31.90   |
| 15       | * 55.2 | * 31.65 |   | 52.8 | 32.01   | * | 51.6 | * 32.12 |
| 16       | 55.2   | 31.54   |   | 52.4 | 32.21   | * | 50.3 | * 32.34 |
| 17       | 53.9   | 31.74   |   | 52.3 | 32.20   |   | 49.0 | 32.55   |
| 18       | 54.4   | 31.58   |   | 53.6 | 32.04   | * | 49.3 | * 32.48 |
| 19       | * 53.7 | * 31.62 |   | 53.9 | 32.08   | * | 49.6 | * 32.40 |
| 20       | 53.0   | 31.65   |   | 53.7 | 32.11   |   | 49.9 | 32.33   |
| 21       | * 54.4 | * 31.52 |   | 52.5 | 32.03   |   | 50.2 | 32.46   |
| 22       | 55.7   | 31.40   |   | 54.9 | 31.79   |   | 53.7 | 31.71   |
| 23       | 52.7   | 31.76   |   | 55.3 | 31.79   |   | 50.9 | 32.14   |
| 24       | 53.6   | 31.80   |   | 55.1 | 31.66   | * | 52.4 | * 32.08 |
| 25       | 52.2   | 31.78   | * | 55.6 | * 31.55 |   | 53.9 | 32.02   |
| 26       | 53.4   | 31.65   | * | 56.1 | * 31.44 |   | 52.3 | 32.21   |
| 27       | 54.0   | 31.60   |   | 56.6 | 31.33   |   | 50.4 | 31.03   |
| 28       | 53.9   | 31.60   |   | 54.2 | 31.65   | * | 51.2 | * 31.56 |
| 29       | 54.6   | 31.67   |   | 54.1 | 31.73   |   | 51.9 | 32.08   |
| 30       | 54.3   | 31.70   |   | 54.5 | 31.77   |   | 51.2 | 32.12   |
| 31       | 54.2   | 31.72   |   | 54.2 | 31.70   |   | 0    | 0       |
| MEANS    | 53.7   | 31.84   |   | 53.6 | 31.90   |   | 52.0 | 32.03   |
| OBSVNS.  | 28     | 28      |   | 25   | 25      |   | 19   | 19      |
| MAXIMUM  | 55.7   | 32.31   |   | 56.6 | 32.21   |   | 53.9 | 32.55   |
| MINIMUM  | 51.2   | 31.40   |   | 50.8 | 31.33   |   | 49.0 | 31.03   |
| STD.DEV. | 1.07   | .23     |   | 1.40 | .21     |   | 1.41 | .32     |

CAPE ST. JAMES

51 56 18 N

131 00 50 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP   | SAL     |   | TEMP | SAL     | TEMP | SAL     |
|-------------|--------|---------|---|------|---------|------|---------|
| 1           | 51.8   | 32.04   | * | 0    | *       | 46.5 | 32.19   |
| 2           | 54.1   | 32.01   | * | 0    | *       | 46.4 | * 32.18 |
| 3           | 55.2   | 31.87   |   | 48.4 | 32.24   | *    | * 32.17 |
| 4           | 52.2   | 31.99   |   | 48.4 | 32.21   |      | 32.16   |
| 5           | 51.9   | 31.74   |   | 47.8 | 32.18   |      | 32.12   |
| 6           | 52.1   | 32.01   |   | 48.7 | 32.13   |      | 32.02   |
| 7           | 51.8   | 31.92   |   | 47.1 | 32.21   |      | 32.13   |
| 8           | 50.6   | 32.10   | * | 47.5 | * 32.19 |      | 32.09   |
| 9           | 50.4   | 32.12   |   | 47.9 | 32.17   | *    | * 32.21 |
| 10          | * 50.2 | * 32.06 |   | 47.8 | 32.08   |      | 32.32   |
| 11          | 49.9   | 32.00   | * | 47.6 | * 32.18 | *    | * 32.34 |
| 12          | 50.0   | 31.95   |   | 47.4 | 32.27   |      | 32.37   |
| 13          | * 49.8 | * 32.05 | * | 47.3 | * 32.31 |      | 32.38   |
| 14          | * 49.5 | * 32.15 | * | 47.3 | * 32.35 |      | 32.31   |
| 15          | 49.2   | 32.24   |   | 47.2 | 32.38   |      | 32.37   |
| 16          | 48.9   | 32.33   | * | 47.4 | * 32.25 |      | 32.26   |
| 17          | 48.9   | 32.28   |   | 47.6 | 32.11   |      | 32.15   |
| 18          | * 48.9 | * 32.22 |   | 47.8 | 32.10   |      | 32.25   |
| 19          | * 49.0 | * 32.15 |   | 47.7 | 32.05   |      | 32.29   |
| 20          | 49.0   | 32.09   | * | 47.4 | * 31.97 |      | 32.25   |
| 21          | 49.3   | 31.92   |   | 47.2 | 31.89   |      | 32.31   |
| 22          | * 49.5 | * 31.98 |   | 47.3 | 31.90   |      | 32.32   |
| 23          | 49.7   | 32.03   |   | 47.4 | 32.00   |      | 32.31   |
| 24          | 48.5   | 32.21   |   | 47.6 | 32.44   |      | 32.26   |
| 25          | 49.2   | 31.97   | * | 47.4 | * 32.22 |      | 32.35   |
| 26          | 48.8   | 31.91   |   | 47.2 | 32.00   | *    | * 32.28 |
| 27          | 48.8   | 31.94   |   | 46.9 | 31.99   |      | 32.20   |
| 28          | * 48.7 | * 32.00 | * | 0    | *       | 46.9 | 32.35   |
| 29          | * 48.5 | * 32.07 | * | 0    | *       | 46.8 | 32.41   |
| 30          | 48.3   | 32.13   | * | 0    | *       | 47.1 | 32.18   |
| 31          | * 0    | * 0     |   | 0    | 0       | 47.0 | 32.38   |
| MEANS       | 50.4   | 32.04   |   | 47.6 | 32.13   | 46.3 | 32.26   |
| OBSVNS.     | 22     | 22      |   | 18   | 18      | 27   | 26      |
| YRLY. MEANS |        |         |   |      |         | 48.5 | 32.10   |
| MAXIMUM     | 55.2   | 32.33   |   | 48.7 | 32.44   | 47.1 | 32.41   |
| MINIMUM     | 48.3   | 31.74   |   | 46.9 | 31.89   | 44.9 | 32.02   |
| STD. DEV.   | 1.87   | .14     |   | .49  | .15     | .58  | .10     |

PINE ISLAND

50 58 33 N

127 43 35 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP   | SAL     | TEMP | SAL   | TEMP | SAL   |
|----------|--------|---------|------|-------|------|-------|
| 1        | 45.0   | 31.17   | 46.3 | 31.83 | 45.2 | 31.18 |
| 2        | 45.6   | 31.10   | 46.4 | 31.06 | 44.7 | 31.03 |
| 3        | 45.4   | 31.15   | 46.4 | 31.06 | 44.4 | 31.03 |
| 4        | 45.2   | 31.07   | 46.0 | 31.11 | 44.6 | 31.19 |
| 5        | 45.1   | 31.11   | 46.2 | 31.09 | 45.1 | 31.27 |
| 6        | 45.2   | 30.99   | 45.8 | 31.12 | 44.8 | 31.11 |
| 7        | 45.4   | 29.93   | 45.8 | 31.16 | 44.8 | 31.41 |
| 8        | 45.8   | 31.18   | 45.9 | 31.10 | 45.4 | 31.48 |
| 9        | 45.3   | 31.15   | 46.3 | 31.16 | 45.6 | 31.49 |
| 10       | 45.6   | 30.40   | 45.9 | 31.12 | 45.3 | 31.46 |
| 11       | 45.7   | 31.16   | 45.7 | 30.97 | 45.8 | 31.52 |
| 12       | 45.8   | 31.06   | 45.6 | 30.97 | 45.7 | 31.46 |
| 13       | 46.0   | 30.60   | 45.2 | 30.97 | 45.6 | 31.40 |
| 14       | 46.0   | 31.14   | 44.9 | 30.98 | 45.7 | 31.39 |
| 15       | 46.5   | 31.18   | 45.0 | 30.91 | 45.4 | 31.43 |
| 16       | 46.3   | 31.14   | 45.1 | 30.92 | 45.1 | 31.43 |
| 17       | 45.3   | 31.08   | 45.6 | 30.88 | 45.1 | 31.44 |
| 18       | 45.9   | 31.10   | 45.3 | 30.99 | 45.4 | 31.35 |
| 19       | 45.2   | 30.93   | 45.6 | 31.12 | 45.2 | 31.42 |
| 20       | 45.7   | 31.20   | 45.8 | 31.16 | 45.5 | 31.44 |
| 21       | 45.5   | 31.05   | 46.1 | 31.32 | 46.2 | 31.47 |
| 22       | 45.9   | 30.97   | 46.3 | 31.30 | 45.5 | 31.41 |
| 23       | 45.6   | 31.00   | 45.8 | 31.29 | 45.6 | 31.39 |
| 24       | 45.2   | 31.14   | 45.7 | 31.31 | 46.1 | 31.30 |
| 25       | 45.4   | 31.15   | 45.9 | 31.29 | 46.1 | 31.34 |
| 26       | 45.6   | 31.04   | 45.8 | 31.25 | 45.8 | 31.37 |
| 27       | * 45.7 | * 31.02 | 45.8 | 31.26 | 46.0 | 31.14 |
| 28       | 45.7   | 30.99   | 45.3 | 31.27 | 46.2 | 31.09 |
| 29       | 45.7   | 31.02   | 0    | 0     | 45.9 | 31.01 |
| 30       | 46.0   | 30.99   | 0    | 0     | 46.2 | 31.06 |
| 31       | 45.9   | 30.94   | 0    | 0     | 45.9 | 31.12 |
| MEANS    | 45.6   | 31.01   | 45.8 | 31.14 | 45.5 | 31.31 |
| OBSVNS.  | 30     | 30      | 28   | 28    | 31   | 31    |
| MAXIMUM  | 46.5   | 31.20   | 46.4 | 31.83 | 46.2 | 31.52 |
| MINIMUM  | 45.0   | 29.93   | 44.9 | 30.88 | 44.4 | 31.01 |
| STD.DEV. | .36    | .26     | .42  | .19   | .50  | .16   |

PINE ISLAND

50 58 33 N

127 43 35 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL     | TEMP   | SAL     | TEMP | SAL     |
|----------|------|---------|--------|---------|------|---------|
| 1        | 45.8 | 31.14   | 45.8   | 31.44   | 46.8 | 31.85   |
| 2        | 45.9 | 31.23   | 47.1   | 31.53   | 47.5 | 31.63   |
| 3        | 46.7 | 31.19   | 47.0   | 31.49   | 47.2 | 31.97   |
| 4        | 46.5 | 31.29   | 47.1   | 31.67   | 47.7 | 31.73   |
| 5        | 46.9 | 31.38   | 47.3   | 31.71   | 47.8 | 31.83   |
| 6        | 46.7 | 31.28   | 47.2   | 31.52   | 48.4 | 31.78   |
| 7        | 46.4 | 31.31   | 47.5   | 31.54   | 47.7 | 31.91   |
| 8        | 46.4 | 31.31   | 46.8   | 31.82   | 47.1 | 32.07   |
| 9        | 46.6 | 31.19   | 47.0   | 31.74   | 47.4 | 31.92   |
| 10       | 45.9 | 31.33   | 47.2   | 31.89   | 47.4 | 31.78   |
| 11       | 45.9 | 31.35   | 47.0   | 31.63   | 47.4 | * 31.71 |
| 12       | 46.1 | 31.25   | 46.8   | 31.71   | 47.7 | 31.63   |
| 13       | 45.4 | 31.32   | 47.3   | 31.52   | 48.2 | 31.57   |
| 14       | 45.6 | 31.23   | 46.8   | 31.38   | 48.3 | 31.52   |
| 15       | 46.1 | 31.12   | 46.8   | 31.47   | 48.7 | 31.63   |
| 16       | 46.1 | 31.09   | 46.8   | 31.52   | 48.5 | 31.65   |
| 17       | 46.7 | 31.14   | 46.9   | 31.64   | 48.7 | 31.57   |
| 18       | 45.6 | 31.25   | 47.5   | 31.34   | 49.1 | 31.79   |
| 19       | 46.2 | 31.27   | 47.0   | 31.62   | 47.6 | 31.96   |
| 20       | 46.9 | 31.47   | 47.1   | 31.53   | 47.7 | 31.82   |
| 21       | 46.0 | 31.22   | 46.9   | 31.69   | 48.4 | 31.85   |
| 22       | 46.8 | 31.03   | 47.2   | 31.56   | 49.0 | 31.86   |
| 23       | 46.6 | 31.26   | 46.4   | 31.89   | 48.4 | 31.95   |
| 24       | 46.8 | 31.33   | 46.3   | 31.84   | 48.7 | 31.92   |
| 25       | 45.5 | 31.40   | * 46.4 | * 31.85 | 48.5 | 31.93   |
| 26       | 45.9 | 31.49   | 46.5   | 31.85   | 49.0 | 31.76   |
| 27       | 45.8 | * 31.47 | 46.9   | 31.84   | 48.5 | 31.59   |
| 28       | 46.0 | 31.45   | 47.5   | 31.73   | 47.8 | 31.68   |
| 29       | 45.6 | 31.53   | 47.0   | 31.92   | 47.8 | 31.61   |
| 30       | 46.0 | 31.27   | 46.5   | 31.89   | 49.9 | 31.80   |
| 31       | 0    | 0       | 47.1   | 31.60   | 0    | 0       |
| MEANS    | 46.2 | 31.28   | 46.9   | 31.65   | 48.1 | 31.78   |
| OBSVNS.  | 30   | 29      | 30     | 30      | 30   | 29      |
| MAXIMUM  | 46.9 | 31.53   | 47.5   | 31.92   | 49.9 | 32.07   |
| MINIMUM  | 45.4 | 31.03   | 45.8   | 31.34   | 46.8 | 31.52   |
| STD.DEV. | .45  | .12     | .37    | .16     | .70  | .15     |



PINE ISLAND

50 58 33 N

127 43 35 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP | SAL     | TEMP | SAL   | TEMP | SAL     |
|----------|------|---------|------|-------|------|---------|
| 1        | 49.0 | 31.89   | 49.5 | 31.86 | 49.5 | 31.60   |
| 2        | 49.0 | 31.93   | 49.2 | 31.89 | 49.8 | 31.52   |
| 3        | 48.4 | 31.95   | 51.1 | 31.74 | 49.4 | 31.78   |
| 4        | 48.9 | 31.87   | 50.8 | 31.81 | 48.9 | 31.77   |
| 5        | 49.1 | 31.91   | 51.7 | 31.78 | 49.2 | 31.67   |
| 6        | 49.4 | 31.82   | 51.5 | 31.58 | 49.6 | 31.68   |
| 7        | 48.9 | 31.92   | 50.7 | 31.37 | 50.2 | 31.48   |
| 8        | 49.0 | 31.91   | 50.6 | 31.40 | 49.4 | 31.53   |
| 9        | 49.1 | 31.84   | 50.6 | 31.37 | 48.8 | 31.55   |
| 10       | 49.3 | 31.76   | 50.3 | 31.43 | 48.6 | 31.62   |
| 11       | 49.8 | 31.63   | 50.9 | 31.27 | 49.3 | 31.74   |
| 12       | 50.3 | 31.55   | 50.9 | 30.93 | 49.5 | 31.82   |
| 13       | 50.2 | 31.60   | 48.3 | 31.74 | 50.0 | 31.42   |
| 14       | 50.9 | 31.65   | 49.8 | 31.18 | 49.9 | 31.95   |
| 15       | 48.5 | 32.05   | 48.4 | 31.73 | 49.2 | 32.08   |
| 16       | 49.4 | 31.92   | 48.6 | 31.71 | 48.9 | 32.12   |
| 17       | 50.4 | 31.71   | 48.9 | 31.72 | 49.2 | 32.12   |
| 18       | 49.3 | 31.35   | 49.2 | 31.82 | 49.4 | 32.18   |
| 19       | 49.4 | 31.62   | 49.0 | 32.06 | 51.4 | 32.20   |
| 20       | 49.4 | 31.87   | 50.0 | 31.79 | 50.0 | 32.18   |
| 21       | 49.7 | 31.89   | 49.2 | 31.95 | 49.4 | 32.05   |
| 22       | 50.6 | 32.04   | 49.6 | 31.84 | 49.4 | 32.02   |
| 23       | 49.4 | 31.52   | 49.2 | 31.87 | 51.7 | 32.07   |
| 24       | 49.4 | * 31.57 | 49.3 | 31.76 | 50.6 | 31.95   |
| 25       | 50.0 | 31.62   | 49.2 | 31.59 | 50.6 | 32.01   |
| 26       | 50.2 | 31.67   | 49.7 | 31.09 | 52.4 | 32.21   |
| 27       | 50.7 | 31.73   | 48.9 | 31.60 | 53.0 | 32.08   |
| 28       | 50.2 | 31.24   | 49.1 | 31.80 | 52.6 | 32.06   |
| 29       | 49.5 | 31.47   | 48.6 | 31.98 | 52.7 | 32.10   |
| 30       | 50.6 | 31.72   | 48.5 | 32.05 | 51.7 | * 32.06 |
| 31       | 50.5 | 31.73   | 48.6 | 32.01 | 0    | 0       |
| MEANS    | 49.6 | 31.75   | 49.7 | 31.67 | 50.1 | 31.88   |
| OBSVNS.  | 31   | 30      | 31   | 31    | 30   | 29      |
| MAXIMUM  | 50.9 | 32.05   | 51.7 | 32.06 | 53.0 | 32.21   |
| MINIMUM  | 48.4 | 31.24   | 48.3 | 30.93 | 48.6 | 31.42   |
| STD.DEV. | .68  | .20     | .98  | .29   | 1.28 | .25     |

PINE ISLAND

50 58 33 N

127 43 35 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|-------------|------|-------|------|-------|------|-------|
| 1           | 50.6 | 32.02 | 49.0 | 31.65 | 46.1 | 31.42 |
| 2           | 50.4 | 31.91 | 48.7 | 31.60 | 46.4 | 31.50 |
| 3           | 49.8 | 31.93 | 48.2 | 31.60 | 46.3 | 31.43 |
| 4           | 49.9 | 31.95 | 48.0 | 31.32 | 46.2 | 31.58 |
| 5           | 49.6 | 31.94 | 47.8 | 31.56 | 46.4 | 31.61 |
| 6           | 49.6 | 31.87 | 47.6 | 31.39 | 46.0 | 31.61 |
| 7           | 51.2 | 31.91 | 47.4 | 31.31 | 45.5 | 31.65 |
| 8           | 51.0 | 32.11 | 47.0 | 31.26 | 45.2 | 31.70 |
| 9           | 51.4 | 32.06 | 46.9 | 31.21 | 45.7 | 31.62 |
| 10          | 51.6 | 32.02 | 46.9 | 31.61 | 45.8 | 31.45 |
| 11          | 50.4 | 32.03 | 46.2 | 31.69 | 46.2 | 31.36 |
| 12          | 50.0 | 32.03 | 46.4 | 31.68 | 46.3 | 31.36 |
| 13          | 48.8 | 32.04 | 46.6 | 31.83 | 46.3 | 31.50 |
| 14          | 48.7 | 31.95 | 46.6 | 31.87 | 46.1 | 31.49 |
| 15          | 48.2 | 32.13 | 47.2 | 31.74 | 46.8 | 31.19 |
| 16          | 48.6 | 32.04 | 46.6 | 31.91 | 46.8 | 31.43 |
| 17          | 47.7 | 32.14 | 47.0 | 31.93 | 46.8 | 31.40 |
| 18          | 48.2 | 31.77 | 47.1 | 31.87 | 47.8 | 31.48 |
| 19          | 48.2 | 32.01 | 47.3 | 31.77 | 47.6 | 31.31 |
| 20          | 47.0 | 32.03 | 47.6 | 31.82 | 47.5 | 31.44 |
| 21          | 47.9 | 32.09 | 47.1 | 31.71 | 48.0 | 31.37 |
| 22          | 47.2 | 31.86 | 47.4 | 31.82 | 47.6 | 31.29 |
| 23          | 47.9 | 31.48 | 47.2 | 31.82 | 46.5 | 31.10 |
| 24          | 49.3 | 31.82 | 47.0 | 31.56 | 46.7 | 31.08 |
| 25          | 49.6 | 31.62 | 46.1 | 31.45 | 46.7 | 31.02 |
| 26          | 49.2 | 31.73 | 46.5 | 31.45 | 46.2 | 31.13 |
| 27          | 48.3 | 31.63 | 46.8 | 31.63 | 46.7 | 31.24 |
| 28          | 48.7 | 31.74 | 47.0 | 31.51 | 46.4 | 31.10 |
| 29          | 48.5 | 31.38 | 46.3 | 31.61 | 46.4 | 31.15 |
| 30          | 48.0 | 31.50 | 46.2 | 31.61 | 46.7 | 31.10 |
| 31          | 48.5 | 31.63 | 0    | 0     | 46.6 | 30.91 |
| MEANS       | 49.2 | 31.88 | 47.1 | 31.63 | 46.5 | 31.36 |
| OBSVNS.     | 31   | 31    | 30   | 30    | 31   | 31    |
| YRLY. MEANS |      |       |      |       | 47.5 | 31.53 |
| MAXIMUM     | 51.6 | 32.14 | 49.0 | 31.93 | 48.0 | 31.70 |
| MINIMUM     | 47.0 | 31.38 | 46.1 | 31.21 | 45.2 | 30.91 |
| STD. DEV.   | 1.24 | .20   | .71  | .20   | .65  | .21   |

KAINS ISLAND

50 26 39 N

128 01 47 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP   | SAL     | TEMP | SAL   | TEMP | SAL   |
|----------|--------|---------|------|-------|------|-------|
| 1        | 47.3   | 30.12   | 46.3 | 27.43 | 45.4 | 28.53 |
| 2        | 47.0   | 29.60   | 45.6 | 26.44 | 45.3 | 28.73 |
| 3        | 46.9   | 29.91   | 46.3 | 28.00 | 46.4 | 29.78 |
| 4        | 45.6   | 29.73   | 46.4 | 29.17 | 46.0 | 29.80 |
| 5        | 47.4   | 30.49   | 47.0 | 29.09 | 45.8 | 30.00 |
| 6        | * 47.8 | * 30.53 | 46.5 | 27.56 | 46.3 | 30.58 |
| 7        | 48.1   | 30.56   | 47.1 | 29.10 | 45.8 | 29.72 |
| 8        | 47.0   | 29.97   | 46.9 | 28.95 | 45.2 | 29.33 |
| 9        | 47.2   | 29.49   | 47.0 | 28.86 | 46.3 | 30.82 |
| 10       | 47.0   | 28.50   | 47.5 | 29.07 | 45.0 | 29.47 |
| 11       | 46.3   | 27.36   | 46.8 | 28.52 | 46.4 | 30.16 |
| 12       | 46.8   | 23.20   | 47.3 | 28.60 | 46.4 | 29.66 |
| 13       | 46.8   | 22.51   | 46.8 | 28.48 | 46.5 | 29.93 |
| 14       | 47.0   | 25.41   | 46.7 | 29.05 | 46.4 | 28.69 |
| 15       | 46.7   | 24.22   | 46.2 | 29.07 | 46.4 | 28.65 |
| 16       | 47.3   | 26.30   | 47.8 | 29.68 | 46.4 | 28.62 |
| 17       | 47.2   | 27.49   | 47.5 | 29.19 | 46.0 | 27.95 |
| 18       | 46.7   | 26.73   | 47.4 | 29.20 | 46.2 | 29.19 |
| 19       | 46.8   | 27.10   | 46.8 | 28.70 | 44.7 | 27.23 |
| 20       | 48.7   | 29.23   | 47.6 | 29.95 | 45.9 | 29.02 |
| 21       | 47.5   | 27.71   | 47.8 | 29.64 | 46.2 | 28.99 |
| 22       | 47.3   | * 27.94 | 47.8 | 29.57 | 46.0 | 29.88 |
| 23       | 46.9   | 28.18   | 47.4 | 30.45 | 46.2 | 29.41 |
| 24       | 47.3   | 29.22   | 47.2 | 28.92 | 46.7 | 29.04 |
| 25       | 47.0   | 28.24   | 46.8 | 28.35 | 47.0 | 29.68 |
| 26       | 46.3   | 28.29   | 47.0 | 28.69 | 46.9 | 29.56 |
| 27       | 46.3   | 27.33   | 47.4 | 29.29 | 47.3 | 29.78 |
| 28       | 46.2   | 27.50   | 45.8 | 29.09 | 47.3 | 29.93 |
| 29       | 46.3   | 27.50   | 0    | 0     | 47.2 | 29.62 |
| 30       | 46.0   | 26.54   | 0    | 0     | 47.3 | 29.48 |
| 31       | 46.3   | 26.76   | 0    | 0     | 46.9 | 27.09 |
| MEANS    | 46.9   | 27.77   | 47.0 | 28.86 | 46.3 | 29.30 |
| OBSVNS.  | 30     | 29      | 28   | 28    | 31   | 31    |
| MAXIMUM  | 48.7   | 30.56   | 47.8 | 30.45 | 47.3 | 30.82 |
| MINIMUM  | 45.6   | 22.51   | 45.6 | 26.44 | 44.7 | 27.09 |
| STD.DEV. | .62    | 2.06    | .58  | .80   | .67  | .84   |

KAINS ISLAND

50 26 39 N

128 01 47 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|----------|------|-------|------|-------|------|-------|
| 1        | 47.3 | 29.65 | 47.8 | 30.82 | 48.4 | 31.09 |
| 2        | 47.7 | 25.83 | 48.4 | 30.73 | 49.8 | 30.72 |
| 3        | 47.4 | 28.15 | 49.0 | 31.00 | 48.8 | 31.34 |
| 4        | 48.0 | 28.72 | 49.9 | 31.01 | 49.0 | 31.21 |
| 5        | 48.2 | 29.16 | 49.5 | 31.13 | 49.9 | 31.22 |
| 6        | 47.9 | 29.15 | 48.8 | 31.25 | 50.0 | 31.51 |
| 7        | 48.2 | 29.02 | 49.4 | 31.26 | 50.9 | 31.53 |
| 8        | 47.9 | 29.45 | 49.4 | 31.29 | 50.8 | 31.43 |
| 9        | 47.9 | 29.56 | 49.4 | 31.16 | 51.6 | 31.40 |
| 10       | 47.8 | 29.67 | 50.0 | 31.20 | 51.9 | 31.84 |
| 11       | 47.8 | 29.52 | 49.0 | 31.29 | 51.6 | 31.87 |
| 12       | 47.3 | 28.91 | 49.5 | 31.43 | 52.8 | 31.17 |
| 13       | 47.4 | 29.56 | 49.9 | 31.43 | 52.0 | 31.73 |
| 14       | 47.5 | 29.56 | 47.9 | 31.31 | 53.1 | 31.13 |
| 15       | 47.5 | 28.78 | 48.9 | 31.56 | 52.9 | 31.57 |
| 16       | 48.0 | 29.29 | 48.5 | 31.47 | 52.5 | 31.57 |
| 17       | 48.0 | 29.89 | 49.0 | 30.62 | 52.2 | 31.60 |
| 18       | 48.1 | 29.90 | 50.5 | 30.44 | 52.5 | 31.25 |
| 19       | 48.4 | 30.09 | 48.8 | 31.19 | 52.9 | 31.63 |
| 20       | 48.6 | 30.00 | 48.7 | 31.37 | 53.1 | 31.44 |
| 21       | 48.3 | 30.18 | 49.8 | 30.92 | 54.3 | 31.05 |
| 22       | 47.8 | 30.44 | 49.2 | 30.96 | 54.2 | 31.21 |
| 23       | 48.8 | 30.31 | 48.8 | 31.23 | 55.1 | 31.10 |
| 24       | 48.9 | 30.10 | 49.8 | 30.82 | 52.7 | 31.59 |
| 25       | 48.9 | 30.18 | 50.3 | 27.92 | 52.5 | 31.47 |
| 26       | 48.7 | 30.44 | 50.0 | 31.09 | 53.3 | 31.33 |
| 27       | 48.5 | 30.42 | 49.5 | 31.07 | 54.0 | 31.15 |
| 28       | 48.0 | 30.59 | 50.4 | 29.40 | 52.1 | 31.41 |
| 29       | 47.4 | 31.42 | 49.9 | 29.51 | 52.9 | 31.43 |
| 30       | 47.7 | 31.04 | 49.9 | 30.43 | 56.2 | 30.65 |
| 31       | 0    | 0     | 50.3 | 30.64 | 0    | 0     |
| MEANS    | 48.0 | 29.63 | 49.4 | 30.87 | 52.1 | 31.35 |
| OBSVNS.  | 30   | 30    | 31   | 31    | 30   | 30    |
| MAXIMUM  | 48.9 | 31.42 | 50.5 | 31.56 | 56.2 | 31.87 |
| MINIMUM  | 47.3 | 25.83 | 47.8 | 27.92 | 48.4 | 30.65 |
| STD.DEV. | .48  | 1.01  | .70  | .74   | 1.84 | .28   |

KAINS ISLAND

50 26 39 N

128 01 47 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP | SAL   | TEMP | SAL   | TEMP   | SAL     |
|----------|------|-------|------|-------|--------|---------|
| 1        | 56.4 | 31.05 | 52.4 | 31.87 | 55.0   | 31.62   |
| 2        | 54.8 | 31.38 | 56.5 | 31.85 | 54.8   | 31.63   |
| 3        | 53.2 | 31.35 | 56.0 | 31.97 | 55.8   | 31.68   |
| 4        | 52.5 | 31.32 | 57.1 | 31.94 | 55.4   | 31.97   |
| 5        | 51.9 | 31.49 | 54.0 | 31.92 | 55.6   | 31.46   |
| 6        | 51.9 | 31.50 | 54.4 | 31.91 | 55.8   | 31.55   |
| 7        | 53.3 | 31.48 | 55.0 | 31.86 | 56.0   | 31.81   |
| 8        | 54.2 | 31.40 | 55.5 | 31.89 | 55.6   | * 31.87 |
| 9        | 51.5 | 31.65 | 54.8 | 31.99 | 55.7   | 31.94   |
| 10       | 54.4 | 31.38 | 57.4 | 31.72 | 56.5   | 31.02   |
| 11       | 54.0 | 31.38 | 55.5 | 31.70 | 56.1   | 31.47   |
| 12       | 55.0 | 31.31 | 53.9 | 31.80 | 56.4   | 31.41   |
| 13       | 54.9 | 31.44 | 55.6 | 31.41 | 56.5   | 31.43   |
| 14       | 56.5 | 31.40 | 54.5 | 31.87 | 56.0   | * 31.67 |
| 15       | 53.1 | 31.64 | 56.0 | 31.24 | 55.2   | 31.91   |
| 16       | 54.3 | 31.94 | 55.5 | 31.52 | 55.6   | 31.87   |
| 17       | 54.5 | 31.94 | 55.5 | 31.56 | 54.9   | 31.87   |
| 18       | 55.5 | 31.60 | 54.4 | 31.87 | 55.1   | 31.85   |
| 19       | 55.8 | 31.76 | 52.6 | 32.03 | 55.4   | 31.69   |
| 20       | 56.7 | 31.53 | 53.0 | 32.07 | 56.1   | 30.86   |
| 21       | 56.8 | 31.67 | 53.8 | 31.96 | 55.7   | 31.12   |
| 22       | 56.7 | 31.74 | 53.5 | 32.06 | * 56.0 | * 31.06 |
| 23       | 58.0 | 31.37 | 52.3 | 32.19 | 56.4   | 30.99   |
| 24       | 55.9 | 31.72 | 53.0 | 32.29 | 56.5   | 31.14   |
| 25       | 54.2 | 31.74 | 54.9 | 32.29 | 56.7   | 31.13   |
| 26       | 55.2 | 31.68 | 55.6 | 32.30 | 56.6   | 30.75   |
| 27       | 58.0 | 31.60 | 53.8 | 32.08 | 55.8   | 31.50   |
| 28       | 55.5 | 31.62 | 54.0 | 30.43 | 56.4   | 30.99   |
| 29       | 56.8 | 31.60 | 54.4 | 30.44 | 56.7   | 31.00   |
| 30       | 54.4 | 31.69 | 54.4 | 31.66 | 56.8   | 30.78   |
| 31       | 51.8 | 31.86 | 55.7 | 31.37 | 0      | 0       |
| MEANS    | 54.8 | 31.56 | 54.7 | 31.78 | 55.9   | 31.42   |
| OBSVNS.  | 31   | 31    | 31   | 31    | 29     | 27      |
| MAXIMUM  | 58.0 | 31.94 | 57.4 | 32.30 | 56.8   | 31.97   |
| MINIMUM  | 51.5 | 31.05 | 52.3 | 30.43 | 54.8   | 30.75   |
| STD.DEV. | 1.79 | .20   | 1.31 | .44   | .58    | .39     |



KAINS ISLAND

50 26 39 N

128 01 47 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP | SAL   | TEMP | SAL   | TEMP   | SAL     |
|-------------|------|-------|------|-------|--------|---------|
| 1           | 56.6 | 31.14 | 50.6 | 27.65 | 46.4   | 28.93   |
| 2           | 56.1 | 31.48 | 49.9 | 28.30 | 46.8   | 30.44   |
| 3           | 55.7 | 31.48 | 50.4 | 28.63 | 46.9   | 29.47   |
| 4           | 55.1 | 31.47 | 50.3 | 28.84 | 46.7   | 28.84   |
| 5           | 54.9 | 31.58 | 49.7 | 28.77 | 46.4   | 28.42   |
| 6           | 55.1 | 31.61 | 49.1 | 28.83 | 45.9   | 28.58   |
| 7           | 54.9 | 31.17 | 49.2 | 29.08 | 44.6   | 28.31   |
| 8           | 54.8 | 31.37 | 48.9 | 30.05 | 45.5   | 30.15   |
| 9           | 54.5 | 31.22 | 48.6 | 29.56 | 46.7   | 30.15   |
| 10          | 53.7 | 31.41 | 48.4 | 29.84 | 46.9   | 30.17   |
| 11          | 53.9 | 30.78 | 48.2 | 30.31 | 47.2   | 29.81   |
| 12          | 52.8 | 30.40 | 47.9 | 30.06 | 46.4   | 32.89   |
| 13          | 53.1 | 31.39 | 48.1 | 30.90 | 46.8   | 30.34   |
| 14          | 52.9 | 31.26 | 48.3 | 31.41 | 47.2   | 29.94   |
| 15          | 52.6 | 31.03 | 47.8 | 29.55 | * 47.2 | * 31.39 |
| 16          | 52.8 | 31.09 | 46.9 | 29.25 | 47.1   | 32.84   |
| 17          | 52.1 | 31.49 | 47.7 | 30.23 | 47.4   | * 29.96 |
| 18          | 51.8 | 31.57 | 47.2 | 29.44 | 47.2   | 27.08   |
| 19          | 51.3 | 30.85 | 48.1 | 30.83 | 47.7   | 28.56   |
| 20          | 50.4 | 30.05 | 47.9 | 28.87 | 47.5   | 26.00   |
| 21          | 49.4 | 29.03 | 47.4 | 27.62 | 47.0   | 25.48   |
| 22          | 49.1 | 28.00 | 47.4 | 27.07 | 46.8   | 25.46   |
| 23          | 51.1 | 30.97 | 47.8 | 29.12 | 46.8   | 24.99   |
| 24          | 50.9 | 29.11 | 47.9 | 29.17 | 46.7   | 24.99   |
| 25          | 50.2 | 25.67 | 46.9 | 26.74 | 45.2   | 23.43   |
| 26          | 50.8 | 26.91 | 47.7 | 29.86 | 45.7   | 26.30   |
| 27          | 49.1 | 26.72 | 47.4 | 28.82 | 45.9   | 26.29   |
| 28          | 49.9 | 27.24 | 46.8 | 27.69 | 46.0   | * 27.27 |
| 29          | 50.8 | 29.16 | 46.2 | 29.80 | 47.0   | 28.25   |
| 30          | 50.3 | 26.79 | 46.1 | 29.48 | 47.0   | 27.42   |
| 31          | 50.2 | 26.84 | 0    | 0     | 47.2   | 27.72   |
| MEANS       | 52.5 | 30.01 | 48.2 | 29.19 | 46.6   | 28.26   |
| OBSVNS.     | 31   | 31    | 30   | 30    | 30     | 28      |
| YRLY. MEANS |      |       |      |       | 50.2   | 30.02   |
| MAXIMUM     | 56.6 | 31.61 | 50.6 | 31.41 | 47.7   | 32.89   |
| MINIMUM     | 49.1 | 25.67 | 46.1 | 26.74 | 44.6   | 23.43   |
| STD. DEV.   | 2.24 | 1.88  | 1.18 | 1.10  | .71    | 2.32    |

AMPHITRITE POINT

48 55 16 N

125 32 17 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP   | SAL     | TEMP   | SAL     | TEMP | SAL     |
|----------|--------|---------|--------|---------|------|---------|
| 1        | * 0    | * 0     | 46.8   | 28.36   | 46.4 | 30.48   |
| 2        | * 0    | * 0     | 46.5   | 27.82   | 46.0 | 30.15   |
| 3        | * 0    | * 0     | 45.9   | 26.83   | 45.4 | 29.80   |
| 4        | * 0    | * 0     | * 46.6 | * 27.67 | 44.3 | 28.91   |
| 5        | * 0    | * 0     | 47.4   | 28.52   | 45.8 | 29.16   |
| 6        | * 0    | * 0     | 47.1   | 27.79   | 46.4 | * 27.88 |
| 7        | * 0    | * 0     | 47.2   | 28.48   | 45.3 | 26.61   |
| 8        | * 0    | * 0     | 47.1   | 28.58   | 46.3 | 27.67   |
| 9        | * 0    | * 0     | 48.0   | 29.02   | 46.6 | 29.28   |
| 10       | * 0    | * 0     | 46.6   | 28.35   | 46.5 | 24.32   |
| 11       | * 0    | * 0     | 48.3   | 29.97   | 46.7 | 29.16   |
| 12       | * 0    | * 0     | 47.5   | 29.17   | 46.4 | 27.31   |
| 13       | * 0    | * 0     | 47.7   | 29.88   | 47.1 | 29.15   |
| 14       | * 0    | * 0     | 47.4   | 29.62   | 46.6 | 26.42   |
| 15       | * 0    | * 0     | 45.3   | 27.76   | 47.2 | 30.05   |
| 16       | * 0    | * 0     | 47.1   | 29.69   | 46.8 | 29.41   |
| 17       | 48.4   | 29.14   | 47.7   | 30.92   | 45.4 | 26.02   |
| 18       | 46.9   | 27.43   | 48.3   | 30.63   | 46.5 | 27.92   |
| 19       | 44.0   | 23.78   | 47.6   | 29.79   | 46.4 | 28.25   |
| 20       | 45.4   | 25.21   | 47.7   | 29.32   | 46.4 | 29.06   |
| 21       | 45.0   | 24.19   | 48.0   | 28.99   | 45.9 | 26.97   |
| 22       | 47.0   | 27.30   | 47.8   | 28.66   | 45.8 | 26.80   |
| 23       | 47.8   | 29.01   | 47.8   | 30.41   | 46.9 | 28.52   |
| 24       | 45.3   | 27.25   | 47.8   | 28.93   | 47.7 | 27.89   |
| 25       | 46.2   | 27.14   | 47.3   | 27.63   | 48.1 | 27.58   |
| 26       | 47.3   | 29.48   | 47.3   | * 28.72 | 48.2 | 27.37   |
| 27       | 47.0   | 29.37   | 47.3   | 29.82   | 47.8 | 28.05   |
| 28       | 46.7   | 28.64   | 47.3   | 30.18   | 48.4 | 26.48   |
| 29       | * 46.7 | * 28.44 | 0      | 0       | 47.3 | 23.90   |
| 30       | 46.7   | 28.24   | 0      | 0       | 47.6 | 28.16   |
| 31       | 46.7   | 27.33   | 0      | 0       | 47.7 | 28.54   |
| MEANS    | 46.5   | 27.39   | 47.3   | 29.04   | 46.6 | 27.98   |
| OBSVNS.  | 14     | 14      | 27     | 26      | 31   | 30      |
| MAXIMUM  | 48.4   | 29.48   | 48.3   | 30.92   | 48.4 | 30.48   |
| MINIMUM  | 44.0   | 23.78   | 45.3   | 26.83   | 44.3 | 23.90   |
| STD.DEV. | 1.17   | 1.85    | .67    | 1.03    | .94  | 1.59    |

AMPHITRITE POINT 48 55 16 N 125 32 17 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL   | TEMP   | SAL     | TEMP   | SAL     |
|----------|------|-------|--------|---------|--------|---------|
| 1        | 48.0 | 26.97 | 50.8   | 30.82   | 50.5   | 31.51   |
| 2        | 48.1 | 28.98 | 50.9   | 30.67   | 49.5   | 31.81   |
| 3        | 48.2 | 26.98 | 50.8   | 31.00   | 50.3   | 31.70   |
| 4        | 49.5 | 26.86 | 50.8   | 31.17   | 51.1   | 31.57   |
| 5        | 49.9 | 26.79 | * 51.4 | * 30.68 | 51.4   | 31.64   |
| 6        | 49.9 | 28.29 | 52.0   | 30.20   | 52.3   | 31.56   |
| 7        | 49.4 | 29.09 | 52.6   | 30.49   | 51.9   | 31.46   |
| 8        | 49.0 | 29.49 | 51.3   | 31.15   | * 52.0 | * 31.37 |
| 9        | 49.9 | 28.96 | 50.1   | 31.76   | 52.2   | 31.27   |
| 10       | 48.3 | 30.29 | 48.5   | 32.14   | 51.2   | 31.83   |
| 11       | 48.5 | 29.34 | 50.0   | 31.59   | 51.2   | 31.71   |
| 12       | 48.5 | 29.18 | 49.1   | 32.13   | 52.4   | 31.17   |
| 13       | 47.5 | 28.45 | 48.9   | 31.97   | 53.1   | 26.20   |
| 14       | 48.0 | 28.47 | 48.3   | 31.98   | 52.8   | 29.21   |
| 15       | 47.5 | 29.25 | 48.6   | 31.18   | * 54.3 | 28.53   |
| 16       | 48.7 | 28.06 | 48.1   | 31.45   | 55.8   | 29.56   |
| 17       | 49.4 | 28.18 | 49.8   | 31.14   | 54.3   | 31.01   |
| 18       | 49.9 | 29.36 | 50.2   | 31.32   | 54.1   | 30.49   |
| 19       | 50.0 | 28.60 | 50.0   | 31.62   | 54.8   | 30.35   |
| 20       | 49.0 | 31.26 | 50.3   | 31.49   | 55.3   | 29.41   |
| 21       | 49.5 | 30.93 | 50.8   | 31.47   | 53.6   | 29.71   |
| 22       | 50.1 | 31.05 | 49.4   | 31.90   | 54.4   | 30.26   |
| 23       | 49.9 | 31.16 | 49.9   | 31.61   | 53.2   | 30.90   |
| 24       | 49.8 | 30.52 | 51.5   | 31.29   | 55.7   | 30.19   |
| 25       | 49.1 | 31.76 | 52.7   | 31.02   | 52.9   | 30.99   |
| 26       | 49.7 | 31.46 | 49.5   | 31.75   | 54.1   | 30.13   |
| 27       | 50.3 | 30.98 | 50.0   | 31.85   | 54.3   | 27.56   |
| 28       | 49.7 | 31.39 | 48.0   | 32.28   | 54.7   | 29.69   |
| 29       | 50.0 | 31.17 | 48.6   | 32.23   | 54.9   | 30.19   |
| 30       | 50.0 | 30.29 | 48.8   | 32.42   | 54.4   | 29.83   |
| 31       | 0    | 0     | 49.1   | 32.16   | 0      | 0       |
| MEANS    | 49.2 | 29.45 | 50.0   | 31.51   | 53.1   | 30.39   |
| OBSVNS.  | 30   | 30    | 30     | 30      | 28     | 29      |
| MAXIMUM  | 50.3 | 31.76 | 52.7   | 32.42   | 55.8   | 31.83   |
| MINIMUM  | 47.5 | 26.79 | 48.0   | 30.20   | 49.5   | 26.20   |
| STD.DEV. | .84  | 1.51  | 1.27   | .56     | 1.73   | 1.34    |

AMPHITRITE POINT 48 55 16 N 125 32 17 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP | SAL   | TEMP | SAL     | TEMP | SAL   |
|----------|------|-------|------|---------|------|-------|
| 1        | 54.3 | 30.20 | 50.9 | 32.08   | 56.9 | 30.67 |
| 2        | 54.9 | 30.25 | 52.1 | * 31.98 | 58.2 | 30.81 |
| 3        | 56.4 | 29.79 | 52.3 | 31.88   | 57.7 | 30.88 |
| 4        | 56.8 | 30.22 | 52.2 | 31.86   | 56.5 | 31.07 |
| 5        | 57.2 | 29.92 | 53.5 | 31.87   | 54.3 | 31.48 |
| 6        | 58.2 | 29.63 | 56.0 | 31.36   | 54.0 | 31.48 |
| 7        | 54.2 | 31.09 | 54.2 | 31.63   | 54.4 | 31.40 |
| 8        | 52.4 | 31.38 | 53.5 | 31.63   | 54.6 | 30.76 |
| 9        | 51.2 | 31.76 | 54.4 | 31.62   | 54.7 | 28.12 |
| 10       | 52.0 | 31.73 | 54.0 | 31.91   | 54.2 | 30.45 |
| 11       | 53.2 | 31.69 | 53.7 | 31.90   | 54.0 | 30.46 |
| 12       | 53.3 | 31.65 | 53.6 | 31.14   | 53.5 | 30.46 |
| 13       | 54.7 | 31.17 | 51.0 | 31.12   | 54.0 | 30.48 |
| 14       | 53.3 | 31.68 | 53.3 | 30.94   | 52.9 | 31.01 |
| 15       | 52.7 | 31.68 | 53.2 | 30.44   | 53.2 | 31.04 |
| 16       | 54.4 | 31.24 | 54.4 | 31.03   | 54.2 | 30.40 |
| 17       | 55.2 | 30.62 | 55.2 | 31.00   | 52.7 | 29.74 |
| 18       | 55.5 | 28.97 | 55.9 | 31.16   | 53.6 | 29.94 |
| 19       | 54.3 | 30.93 | 53.8 | 31.61   | 52.6 | 30.77 |
| 20       | 57.0 | 30.26 | 56.7 | 31.35   | 52.5 | 30.75 |
| 21       | 55.3 | 30.95 | 55.2 | 31.45   | 54.6 | 30.58 |
| 22       | 54.5 | 31.28 | 54.5 | 31.45   | 54.0 | 30.59 |
| 23       | 54.0 | 31.62 | 54.1 | 31.71   | 53.7 | 29.61 |
| 24       | 54.6 | 31.05 | 54.0 | 31.55   | 54.1 | 30.38 |
| 25       | 54.4 | 31.36 | 54.0 | 31.69   | 53.0 | 31.29 |
| 26       | 54.2 | 31.68 | 54.0 | 29.87   | 53.3 | 29.93 |
| 27       | 53.0 | 31.72 | 54.3 | 28.93   | 53.6 | 29.68 |
| 28       | 51.4 | 31.87 | 54.8 | 29.36   | 54.0 | 30.69 |
| 29       | 51.6 | 31.93 | 55.3 | 30.53   | 54.2 | 30.59 |
| 30       | 53.2 | 31.38 | 55.2 | 30.80   | 56.2 | 29.47 |
| 31       | 50.7 | 32.05 | 55.4 | 30.69   | 0    | 0     |
| MEANS    | 54.1 | 31.06 | 54.0 | 31.19   | 54.3 | 30.50 |
| OBSVNS.  | 31   | 31    | 31   | 30      | 30   | 30    |
| MAXIMUM  | 58.2 | 32.05 | 56.7 | 32.08   | 58.2 | 31.48 |
| MINIMUM  | 50.7 | 28.97 | 50.9 | 28.93   | 52.5 | 28.12 |
| STD.DEV. | 1.83 | .79   | 1.35 | .75     | 1.43 | .70   |

AMPHITRITE POINT 48 55 16 N 125 32 17 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|-------------|--------|---------|--------|---------|--------|---------|
| 1           | 53.9   | 30.57   | 51.7   | 27.14   | 49.7   | 27.77   |
| 2           | 54.7   | 30.86   | 51.8   | 29.09   | * 49.2 | * 26.49 |
| 3           | 54.1   | 30.67   | 51.7   | 29.01   | 48.8   | 25.21   |
| 4           | 54.7   | 30.66   | 51.7   | 30.25   | * 49.0 | * 26.31 |
| 5           | 54.1   | 29.03   | 51.5   | 30.24   | 49.2   | 27.41   |
| 6           | 53.9   | 27.35   | 51.2   | 30.25   | 49.7   | 29.05   |
| 7           | 53.0   | 29.19   | 50.4   | 30.29   | 48.0   | 26.93   |
| 8           | 51.8   | 31.61   | 50.3   | 30.21   | 47.5   | 27.20   |
| 9           | 53.7   | 30.43   | 50.4   | 29.59   | 45.6   | 24.05   |
| 10          | 52.6   | 30.11   | 49.8   | 29.78   | 49.4   | 29.66   |
| 11          | 52.3   | 30.63   | 48.4   | 29.77   | 49.4   | 28.83   |
| 12          | 52.0   | 30.82   | 48.9   | 31.16   | 49.3   | 28.91   |
| 13          | 51.9   | 30.34   | 48.7   | 29.60   | 49.4   | 27.62   |
| 14          | 51.9   | 30.39   | 48.6   | 30.17   | * 49.3 | * 27.67 |
| 15          | 52.3   | 30.40   | 48.7   | 29.80   | 49.3   | 27.72   |
| 16          | 52.8   | 29.56   | 48.7   | 30.19   | 49.6   | 27.68   |
| 17          | 52.1   | 31.42   | 47.5   | 29.54   | 48.8   | 19.02   |
| 18          | 52.0   | 24.29   | 49.1   | 29.26   | 49.4   | 24.29   |
| 19          | 51.7   | 28.32   | * 49.6 | * 29.42 | 49.6   | 27.83   |
| 20          | 50.8   | 27.44   | 50.0   | 29.58   | 49.3   | 27.11   |
| 21          | 50.6   | 30.30   | 50.2   | 29.86   | 48.8   | 24.88   |
| 22          | 50.6   | 27.50   | 49.7   | 28.73   | 48.2   | 24.52   |
| 23          | 50.7   | 26.14   | 49.3   | 29.26   | * 48.8 | * 26.16 |
| 24          | 50.9   | 29.15   | 48.8   | 26.52   | 49.3   | 27.81   |
| 25          | 51.3   | 29.14   | 49.7   | 29.02   | 47.5   | 24.63   |
| 26          | 50.9   | 29.58   | 49.7   | 29.22   | 45.5   | 23.69   |
| 27          | 51.4   | 29.05   | 49.9   | 29.52   | 45.8   | 24.47   |
| 28          | 51.2   | 27.74   | 49.8   | 29.72   | 47.5   | 26.64   |
| 29          | * 51.6 | * 28.28 | 48.4   | 24.96   | 49.2   | 28.85   |
| 30          | 51.9   | 28.83   | 48.7   | 25.84   | 48.5   | 26.59   |
| 31          | 51.7   | 26.64   | 0      | 0       | 48.6   | 27.06   |
| MEANS       | 52.2   | 29.27   | 49.8   | 29.23   | 48.6   | 26.50   |
| OBSVNS.     | 30     | 30      | 29     | 29      | 27     | 27      |
| YRLY. MEANS |        |         |        |         | 50.7   | 29.59   |
| MAXIMUM     | 54.7   | 31.61   | 51.8   | 31.16   | 49.7   | 29.66   |
| MINIMUM     | 50.6   | 24.29   | 47.5   | 24.96   | 45.5   | 19.02   |
| STD. DEV.   | 1.25   | 1.71    | 1.18   | 1.40    | 1.25   | 2.28    |



RACE ROCKS

48 17 57 N

123 31 48 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|----------|------|-------|------|-------|------|-------|
| 1        | 46.3 | 31.04 | 45.4 | 30.57 | 45.1 | 31.03 |
| 2        | 46.2 | 31.07 | 45.4 | 30.67 | 44.9 | 30.90 |
| 3        | 45.8 | 31.08 | 45.7 | 30.83 | 45.9 | 30.97 |
| 4        | 46.0 | 30.96 | 46.2 | 30.94 | 45.4 | 31.07 |
| 5        | 45.4 | 30.92 | 46.5 | 31.04 | 46.3 | 31.14 |
| 6        | 46.7 | 30.99 | 46.4 | 31.21 | 46.0 | 31.26 |
| 7        | 46.8 | 30.99 | 45.1 | 31.40 | 45.7 | 31.56 |
| 8        | 46.2 | 31.04 | 45.1 | 31.30 | 45.5 | 31.33 |
| 9        | 45.7 | 31.14 | 45.5 | 31.24 | 45.8 | 31.53 |
| 10       | 45.8 | 30.96 | 45.4 | 31.09 | 45.3 | 31.51 |
| 11       | 45.7 | 31.03 | 45.8 | 30.60 | 45.4 | 31.27 |
| 12       | 46.3 | 31.07 | 45.3 | 30.82 | 45.6 | 31.16 |
| 13       | 46.5 | 30.85 | 45.4 | 30.93 | 46.0 | 31.12 |
| 14       | 46.2 | 30.89 | 45.0 | 30.56 | 46.2 | 31.05 |
| 15       | 46.2 | 30.32 | 45.1 | 30.43 | 46.1 | 30.98 |
| 16       | 45.8 | 30.40 | 45.6 | 30.52 | 46.5 | 30.99 |
| 17       | 46.2 | 30.67 | 45.9 | 30.56 | 46.1 | 31.01 |
| 18       | 46.0 | 30.68 | 46.5 | 30.62 | 45.6 | 30.72 |
| 19       | 45.8 | 30.69 | 45.8 | 30.70 | 45.6 | 30.86 |
| 20       | 45.9 | 30.71 | 46.9 | 30.71 | 46.6 | 30.87 |
| 21       | 45.8 | 30.71 | 46.7 | 30.83 | 47.1 | 30.94 |
| 22       | 46.0 | 30.74 | 46.2 | 30.94 | 46.1 | 31.14 |
| 23       | 45.6 | 30.70 | 45.5 | 31.03 | 46.9 | 30.92 |
| 24       | 44.4 | 30.98 | 45.6 | 31.03 | 46.6 | 31.36 |
| 25       | 44.8 | 30.96 | 45.8 | 31.29 | 45.2 | 30.88 |
| 26       | 45.3 | 30.83 | 45.3 | 30.93 | 45.3 | 30.80 |
| 27       | 45.6 | 30.88 | 45.4 | 30.93 | 45.6 | 30.89 |
| 28       | 45.6 | 30.80 | 44.8 | 30.96 | 46.2 | 30.88 |
| 29       | 45.8 | 30.55 | 0    | 0     | 46.3 | 30.69 |
| 30       | 45.8 | 30.44 | 0    | 0     | 46.6 | 30.41 |
| 31       | 45.7 | 30.61 | 0    | 0     | 46.5 | 30.60 |
| MEANS    | 45.9 | 30.83 | 45.7 | 30.88 | 45.9 | 31.03 |
| OBSVNS.  | 31   | 31    | 28   | 28    | 31   | 31    |
| MAXIMUM  | 46.8 | 31.14 | 46.9 | 31.40 | 47.1 | 31.56 |
| MINIMUM  | 44.4 | 30.32 | 44.8 | 30.43 | 44.9 | 30.41 |
| STD.DEV. | .49  | .22   | .55  | .26   | .55  | .27   |

RACE ROCKS

48 17 57 N

123 31 48 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP   | SAL     |   | TEMP | SAL     | TEMP | SAL   |
|----------|--------|---------|---|------|---------|------|-------|
| 1        | 46.7   | 30.80   |   | 48.5 | 31.24   | 49.1 | 30.94 |
| 2        | 48.0   | 31.32   | * | 48.4 | * 31.32 | 48.3 | 31.29 |
| 3        | * 48.2 | * 31.32 |   | 48.2 | 31.39   | 48.0 | 31.29 |
| 4        | 48.4   | 31.32   |   | 48.4 | 31.43   | 48.2 | 31.46 |
| 5        | 48.5   | 31.23   |   | 47.7 | 31.62   | 48.3 | 31.42 |
| 6        | 47.9   | 31.53   |   | 47.0 | 31.76   | * 0  | 31.49 |
| 7        | 47.1   | 31.46   |   | 47.9 | 31.72   | * 0  | 31.70 |
| 8        | 46.4   | 31.28   |   | 46.5 | 31.83   | * 0  | 31.69 |
| 9        | 46.5   | 31.31   |   | 47.0 | 31.43   | * 0  | 31.48 |
| 10       | 46.6   | 31.25   |   | 46.9 | 31.56   | * 0  | 31.29 |
| 11       | 45.6   | 31.03   |   | 47.6 | 31.33   | * 0  | 31.25 |
| 12       | 45.5   | 31.12   |   | 48.5 | 31.04   | * 0  | 31.03 |
| 13       | 46.2   | 31.08   |   | 48.4 | 31.47   | * 0  | 31.03 |
| 14       | 47.6   | 30.98   |   | 48.5 | 31.05   | * 0  | 30.97 |
| 15       | 47.6   | 31.04   |   | 48.9 | 30.47   | * 0  | 31.00 |
| 16       | 48.5   | 31.11   |   | 50.4 | 30.64   | * 0  | 31.16 |
| 17       | 48.5   | 31.04   |   | 50.3 | 30.51   | * 0  | 31.46 |
| 18       | 48.4   | 31.08   |   | 49.7 | 30.59   | * 0  | 31.39 |
| 19       | 48.5   | 30.85   |   | 49.3 | 30.91   | * 0  | 31.77 |
| 20       | 48.6   | 30.79   |   | 48.0 | 31.49   | * 0  | 31.71 |
| 21       | 47.9   | 31.02   |   | 47.6 | 31.76   | * 0  | 31.85 |
| 22       | 47.8   | 31.01   |   | 47.5 | 31.79   | * 0  | 31.81 |
| 23       | 47.0   | 31.21   |   | 47.4 | 31.74   | * 0  | 31.90 |
| 24       | 47.1   | 31.22   |   | 47.0 | 31.64   | * 0  | 31.64 |
| 25       | 46.5   | 31.22   |   | 47.4 | 31.49   | * 0  | 31.78 |
| 26       | 46.1   | 31.14   |   | 48.0 | 31.42   | * 0  | 31.83 |
| 27       | 46.4   | 31.07   |   | 47.6 | 31.56   | * 0  | 31.27 |
| 28       | 47.0   | 31.02   |   | 48.4 | 31.64   | * 0  | 31.60 |
| 29       | 47.8   | 30.89   |   | 49.8 | 31.62   | * 0  | 31.31 |
| 30       | 48.0   | 31.22   |   | 49.9 | 31.53   | * 0  | 31.48 |
| 31       | 0      | 0       |   | 50.3 | 31.04   | 0    | 0     |
| MEANS    | 47.3   | 31.13   |   | 48.3 | 31.36   | 48.4 | 31.44 |
| OBSVNS.  | 29     | 29      |   | 30   | 30      | 5    | 30    |
| MAXIMUM  | 48.6   | 31.53   |   | 50.4 | 31.83   | 49.1 | 31.90 |
| MINIMUM  | 45.5   | 30.79   |   | 46.5 | 30.47   | 48.0 | 30.94 |
| STD.DEV. | .95    | .18     |   | 1.10 | .40     | .42  | .29   |

RACE ROCKS

48 17 57 N

123 31 48 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     |   | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|----------|---|------|-------|------|-------|------|-------|
| 1        | * | 0    | 31.57 | 50.9 | 31.45 | 50.6 | 31.68 |
| 2        | * | 0    | 31.61 | 50.3 | 31.49 | 50.3 | 31.53 |
| 3        | * | 0    | 31.67 | 50.4 | 31.53 | 50.7 | 31.36 |
| 4        | * | 0    | 31.53 | 50.5 | 31.55 | 50.2 | 31.57 |
| 5        | * | 0    | 31.77 | 50.5 | 31.29 | 50.2 | 31.58 |
| 6        | * | 0    | 31.75 | 50.8 | 30.91 | 49.9 | 31.45 |
| 7        | * | 0    | 31.37 | 52.4 | 30.76 | 50.9 | 31.20 |
| 8        | * | 0    | 31.18 | 51.9 | 30.44 | 51.2 | 30.94 |
| 9        | * | 0    | 31.18 | 52.3 | 30.39 | 51.4 | 31.19 |
| 10       | * | 0    | 31.01 | 53.0 | 30.47 | 51.4 | 30.49 |
| 11       | * | 0    | 30.85 | 52.3 | 30.46 | 51.4 | 30.84 |
| 12       | * | 0    | 30.60 | 52.4 | 30.63 | 51.2 | 30.56 |
| 13       | * | 0    | 30.68 | 52.9 | 30.67 | 50.7 | 31.49 |
| 14       | * | 0    | 30.71 | 52.3 | 31.18 | 49.1 | 31.95 |
| 15       | * | 0    | 30.98 | 51.2 | 31.24 | 49.6 | 31.90 |
| 16       | * | 0    | 31.07 | 50.0 | 31.81 | 48.8 | 31.93 |
| 17       | * | 0    | 31.44 | 50.5 | 31.75 | 48.4 | 32.19 |
| 18       | * | 0    | 31.70 | 50.3 | 32.19 | 48.9 | 31.97 |
| 19       | * | 0    | 31.91 | 50.7 | 31.44 | 48.2 | 31.77 |
| 20       | * | 0    | 31.84 | 50.5 | 31.62 | 49.2 | 31.82 |
| 21       | * | 0    | 31.95 | 50.4 | 31.39 | 50.3 | 31.58 |
| 22       | * | 0    | 31.86 | 50.5 | 31.10 | 50.4 | 31.84 |
| 23       | * | 0    | 31.72 | 52.6 | 30.58 | 51.3 | 31.42 |
| 24       | * | 0    | 31.60 | 52.3 | 30.93 | 50.6 | 30.99 |
| 25       | * | 0    | 31.05 | 52.3 | 30.92 | 50.6 | 31.28 |
| 26       | * | 0    | 30.69 | 51.5 | 30.92 | 50.8 | 31.21 |
| 27       | * | 0    | 30.66 | 51.8 | 30.64 | 51.1 | 31.19 |
| 28       |   | 51.0 | 31.11 | 51.7 | 31.35 | 50.7 | 31.20 |
| 29       |   | 51.5 | 31.30 | 50.9 | 31.18 | 50.7 | 31.24 |
| 30       |   | 52.0 | 31.68 | 51.0 | 31.50 | 50.6 | 31.26 |
| 31       |   | 50.0 | 31.50 | 50.7 | 31.46 | 0    | 0     |
| MEANS    |   | 51.1 | 31.34 | 51.3 | 31.14 | 50.3 | 31.42 |
| OBSVNS.  |   | 4    | 31    | 31   | 31    | 30   | 30    |
| MAXIMUM  |   | 52.0 | 31.95 | 53.0 | 32.19 | 51.4 | 32.19 |
| MINIMUM  |   | 50.0 | 30.60 | 50.0 | 30.39 | 48.2 | 30.49 |
| STD.DEV. |   | .85  | .42   | .92  | .47   | .91  | .41   |

RACE ROCKS

48 17 57 N

123 31 48 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP | SAL   | TEMP   | SAL     | TEMP   | SAL     |
|-------------|------|-------|--------|---------|--------|---------|
| 1           | 50.0 | 31.38 | 48.9   | 31.59   | 47.8   | 31.36   |
| 2           | 50.1 | 31.68 | 48.7   | 31.57   | 47.4   | 31.40   |
| 3           | 49.8 | 31.37 | 47.9   | 31.70   | 47.7   | 31.58   |
| 4           | 49.5 | 31.13 | 48.3   | 31.58   | 47.3   | 31.48   |
| 5           | 49.9 | 31.23 | 48.3   | 31.71   | 47.5   | 31.40   |
| 6           | 50.3 | 30.78 | * 48.5 | * 31.60 | 47.6   | 31.37   |
| 7           | 50.3 | 31.06 | 48.7   | 31.50   | 47.6   | 31.33   |
| 8           | 50.0 | 31.18 | 48.1   | 31.16   | 47.6   | 31.22   |
| 9           | 50.4 | 30.99 | 48.3   | 31.14   | 47.2   | 31.24   |
| 10          | 50.1 | 31.19 | 48.1   | 31.39   | 47.9   | 31.20   |
| 11          | 50.1 | 31.25 | 47.4   | 31.56   | 47.7   | 31.33   |
| 12          | 49.7 | 31.50 | 47.3   | 31.84   | 47.5   | 31.30   |
| 13          | 49.5 | 31.64 | 47.2   | 31.98   | 47.5   | 31.35   |
| 14          | 49.0 | 32.09 | 47.3   | 31.93   | 47.6   | 31.21   |
| 15          | 48.9 | 31.52 | 47.7   | 31.76   | 48.3   | 30.55   |
| 16          | 48.2 | 32.43 | 47.6   | 31.76   | 47.6   | 31.14   |
| 17          | 48.7 | 31.92 | 47.2   | 31.97   | * 47.6 | * 31.04 |
| 18          | 48.1 | 31.45 | 47.3   | 31.92   | 47.6   | 30.95   |
| 19          | 47.5 | 31.44 | 47.4   | 31.69   | 47.7   | 30.98   |
| 20          | 48.3 | 31.52 | 47.3   | 31.82   | 47.7   | 30.89   |
| 21          | 48.3 | 31.61 | 47.6   | 31.63   | 47.6   | 30.93   |
| 22          | 48.4 | 31.60 | 47.7   | 31.65   | 47.4   | 30.99   |
| 23          | 48.9 | 31.57 | 47.9   | 31.60   | 47.3   | 30.64   |
| 24          | 49.7 | 31.57 | * 47.9 | * 31.59 | 47.4   | 30.74   |
| 25          | 48.9 | 31.61 | 47.9   | 31.57   | 47.5   | 30.65   |
| 26          | 49.0 | 31.54 | 47.4   | 31.47   | 47.3   | 30.64   |
| 27          | 48.8 | 31.74 | 47.3   | 31.37   | 47.3   | 30.74   |
| 28          | 48.9 | 31.56 | 47.5   | 31.57   | 47.3   | 30.84   |
| 29          | 48.9 | 31.71 | 47.2   | 31.40   | 47.4   | 31.09   |
| 30          | 48.7 | 31.67 | 47.2   | 31.38   | 47.4   | 30.90   |
| 31          | 49.1 | 31.66 | 0      | 0       | 47.3   | 30.85   |
| MEANS       | 49.2 | 31.50 | 47.7   | 31.61   | 47.5   | 31.08   |
| OBSVNS.     | 31   | 31    | 28     | 28      | 30     | 30      |
| YRLY. MEANS |      |       |        |         | 48.0   | 31.23   |
| MAXIMUM     | 50.4 | 32.43 | 48.9   | 31.98   | 48.3   | 31.58   |
| MINIMUM     | 47.5 | 30.78 | 47.2   | 31.14   | 47.2   | 30.55   |
| STD. DEV.   | .77  | .32   | .51    | .22     | .22    | .29     |

CAPE MUDGE

49 59 56 N

125 11 38 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     |   | TEMP | SAL     |   | TEMP | SAL     | TEMP   | SAL     |
|----------|---|------|---------|---|------|---------|--------|---------|
| 1        | * | 44.0 | * 28.39 |   | 45.6 | 28.81   | 44.5   | 29.01   |
| 2        |   | 45.0 | 28.63   |   | 46.0 | 29.09   | 45.8   | 28.94   |
| 3        |   | 43.5 | 28.43   |   | 46.0 | 29.23   | 47.2   | 29.00   |
| 4        |   | 43.8 | 28.63   | * | 46.2 | * 29.30 | 43.5   | 28.64   |
| 5        |   | 44.1 | 29.04   |   | 46.4 | 29.36   | * 45.1 | * 29.04 |
| 6        |   | 45.0 | 28.79   |   | 46.4 | 29.37   | 46.7   | 29.44   |
| 7        | * | 45.1 | * 28.86 |   | 46.0 | 29.20   | * 46.1 | * 29.04 |
| 8        |   | 45.2 | 28.94   | * | 45.7 | * 29.20 | 45.4   | 28.64   |
| 9        | * | 45.1 | * 28.97 |   | 45.5 | 29.21   | 47.0   | 29.39   |
| 10       | * | 45.0 | * 29.00 |   | 45.5 | 29.24   | 44.0   | 28.03   |
| 11       |   | 45.0 | 29.04   |   | 44.5 | 29.18   | 44.4   | 29.27   |
| 12       |   | 44.8 | 26.93   |   | 45.4 | 29.09   | 45.6   | 28.76   |
| 13       | * | 45.4 | 25.20   |   | 44.9 | 28.43   | 46.0   | 28.58   |
| 14       |   | 46.0 | 28.86   |   | 45.2 | 28.94   | 45.6   | 28.19   |
| 15       |   | 45.5 | 28.58   |   | 46.2 | 29.21   | 45.4   | 28.17   |
| 16       |   | 45.5 | 28.74   |   | 46.4 | 29.34   | 47.1   | 28.46   |
| 17       |   | 45.6 | 28.18   |   | 46.5 | 29.49   | 46.0   | 27.77   |
| 18       |   | 46.0 | 28.78   |   | 47.0 | 29.64   | 47.0   | 27.44   |
| 19       |   | 46.2 | 29.06   |   | 46.9 | 29.67   | * 46.7 | * 28.25 |
| 20       |   | 45.9 | 28.96   |   | 46.6 | 29.47   | 46.4   | 29.06   |
| 21       |   | 45.7 | 29.00   |   | 47.0 | 29.63   | 47.0   | 29.08   |
| 22       |   | 45.5 | 28.99   |   | 46.9 | 29.59   | 46.0   | 28.99   |
| 23       |   | 44.5 | 29.07   |   | 46.4 | 29.53   | 46.5   | 29.32   |
| 24       |   | 44.9 | 29.07   |   | 45.1 | 29.16   | 46.5   | 29.14   |
| 25       |   | 43.0 | 28.23   |   | 45.9 | 29.39   | 47.0   | 29.22   |
| 26       |   | 44.5 | 27.82   |   | 45.4 | 29.47   | 47.0   | 29.34   |
| 27       |   | 45.6 | 29.25   |   | 45.1 | 29.27   | 46.7   | 29.43   |
| 28       |   | 44.6 | 27.49   |   | 45.0 | 28.57   | 46.9   | 29.44   |
| 29       |   | 45.5 | 28.91   |   | 0    | 0       | 46.9   | 28.43   |
| 30       |   | 45.4 | 28.70   |   | 0    | 0       | 48.5   | 29.16   |
| 31       |   | 44.9 | 27.95   |   | 0    | 0       | 47.5   | 28.74   |
| MEANS    |   | 45.0 | 28.49   |   | 45.9 | 29.25   | 46.2   | 28.82   |
| OBSVNS.  |   | 26   | 27      |   | 26   | 26      | 28     | 28      |
| MAXIMUM  |   | 46.2 | 29.25   |   | 47.0 | 29.67   | 48.5   | 29.44   |
| MINIMUM  |   | 43.0 | 25.20   |   | 44.5 | 28.43   | 43.5   | 27.44   |
| STD.DEV. |   | .80  | .85     |   | .72  | .31     | 1.13   | .53     |



CAPE MUDGE

49 59 56 N

125 11 38 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL   | TEMP | SAL   | TEMP   | SAL     |
|----------|------|-------|------|-------|--------|---------|
| 1        | 49.7 | 29.46 | 51.0 | 29.53 | 51.6   | 29.63   |
| 2        | 49.5 | 29.49 | 49.5 | 29.76 | 52.0   | 29.46   |
| 3        | 50.0 | 29.15 | 51.0 | 29.67 | 49.5   | 29.41   |
| 4        | 51.0 | 29.51 | 50.5 | 29.57 | 52.0   | 29.26   |
| 5        | 49.5 | 29.17 | 51.2 | 29.45 | 53.0   | 29.27   |
| 6        | 50.0 | 29.30 | 49.5 | 29.33 | 52.5   | 29.19   |
| 7        | 50.1 | 29.42 | 50.1 | 29.54 | * 51.3 | * 29.34 |
| 8        | 48.3 | 29.14 | 51.2 | 29.36 | 50.1   | 29.48   |
| 9        | 47.5 | 29.50 | 49.0 | 29.10 | 52.0   | 29.03   |
| 10       | 47.0 | 29.62 | 50.5 | 28.95 | 53.0   | 28.65   |
| 11       | 46.0 | 28.73 | 52.0 | 29.11 | 52.0   | 27.71   |
| 12       | 48.0 | 28.85 | 51.9 | 29.30 | 57.0   | 27.04   |
| 13       | 47.5 | 28.23 | 50.0 | 28.98 | 54.5   | 26.39   |
| 14       | 47.2 | 28.64 | 50.5 | 29.54 | 57.0   | 27.46   |
| 15       | 49.5 | 29.05 | 50.2 | 29.56 | 58.5   | 27.61   |
| 16       | 51.0 | 29.18 | 49.8 | 29.72 | 58.0   | 27.84   |
| 17       | 51.5 | 29.15 | 50.5 | 29.61 | 56.5   | 27.60   |
| 18       | 50.5 | 28.95 | 51.5 | 29.59 | 54.0   | 28.50   |
| 19       | 52.5 | 29.29 | 50.5 | 29.58 | 56.5   | 27.63   |
| 20       | 50.3 | 29.49 | 51.0 | 29.45 | 56.0   | 27.41   |
| 21       | 49.0 | 29.37 | 50.3 | 29.31 | 53.7   | 27.59   |
| 22       | 49.0 | 29.29 | 51.2 | 29.38 | 56.0   | 27.12   |
| 23       | 49.2 | 29.40 | 51.0 | 29.49 | 56.0   | 25.27   |
| 24       | 48.6 | 29.23 | 48.7 | 29.63 | 55.2   | 26.68   |
| 25       | 47.2 | 29.64 | 49.9 | 29.27 | 54.6   | 27.97   |
| 26       | 48.0 | 28.88 | 51.0 | 28.53 | 56.0   | 27.00   |
| 27       | 47.9 | 29.30 | 51.7 | 28.67 | * 56.2 | * 26.50 |
| 28       | 49.5 | 29.40 | 53.8 | 28.71 | 56.4   | 26.00   |
| 29       | 50.0 | 29.56 | 52.5 | 29.18 | 56.5   | 26.41   |
| 30       | 51.2 | 29.80 | 54.2 | 29.28 | 54.2   | 27.17   |
| 31       | 0    | 0     | 52.1 | 29.34 | 0      | 0       |
| MEANS    | 49.2 | 29.24 | 50.9 | 29.34 | 54.4   | 27.85   |
| OBSVNS.  | 30   | 30    | 31   | 31    | 28     | 28      |
| MAXIMUM  | 52.5 | 29.80 | 54.2 | 29.76 | 58.5   | 29.63   |
| MINIMUM  | 46.0 | 28.23 | 48.7 | 28.53 | 49.5   | 25.27   |
| STD.DEV. | 1.53 | .33   | 1.22 | .31   | 2.38   | 1.18    |

CAPE MUDGE

44 59 56 N

125 11 38 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP   | SAL     | TEMP   | SAL     | TEMP | SAL   |
|----------|--------|---------|--------|---------|------|-------|
| 1        | 55.6   | 27.54   | 54.5   | 27.94   | 59.9 | 26.78 |
| 2        | 57.2   | 26.92   | 54.1   | 28.34   | 60.5 | 26.93 |
| 3        | 54.0   | 27.23   | 56.7   | 27.73   | 57.5 | 28.17 |
| 4        | 56.0   | 26.64   | 52.3   | 28.44   | 59.0 | 26.56 |
| 5        | 54.1   | 27.65   | 53.0   | 28.30   | 54.5 | 28.00 |
| 6        | 57.0   | 26.94   | 51.8   | 28.57   | 54.5 | 27.24 |
| 7        | 56.2   | 25.85   | 53.5   | 28.19   | 51.9 | 28.44 |
| 8        | 57.2   | 25.59   | 58.8   | 25.61   | 53.5 | 27.87 |
| 9        | 60.5   | 24.54   | 62.5   | 23.60   | 53.3 | 28.15 |
| 10       | 57.9   | 25.61   | 56.2   | 27.35   | 54.0 | 28.22 |
| 11       | 58.2   | 26.17   | 58.2   | 26.51   | 53.0 | 28.76 |
| 12       | 61.1   | 25.43   | * 56.4 | * 27.32 | 53.5 | 28.83 |
| 13       | 62.8   | 25.43   | 54.6   | 28.14   | 53.2 | 28.72 |
| 14       | 63.0   | 24.88   | 59.1   | 26.37   | 53.4 | 28.58 |
| 15       | 59.0   | 26.20   | 58.3   | 27.13   | 51.2 | 29.00 |
| 16       | 63.1   | 25.09   | 54.1   | 28.07   | 53.2 | 28.23 |
| 17       | 60.2   | 25.72   | 53.3   | 28.44   | 52.0 | 28.58 |
| 18       | 60.0   | 25.36   | 52.3   | 28.54   | 55.0 | 27.88 |
| 19       | 54.4   | 27.10   | 51.4   | 28.90   | 55.8 | 27.48 |
| 20       | 56.0   | 26.83   | 54.7   | 28.19   | 53.0 | 27.44 |
| 21       | 56.4   | 27.11   | 50.8   | 28.60   | 53.5 | 27.53 |
| 22       | 57.0   | 25.57   | 51.0   | 28.68   | 57.2 | 27.76 |
| 23       | 57.6   | 25.49   | 53.0   | 28.86   | 54.1 | 28.18 |
| 24       | 56.2   | 26.62   | 53.8   | 28.44   | 53.0 | 27.08 |
| 25       | 56.6   | 26.52   | 52.5   | 27.87   | 56.7 | 27.01 |
| 26       | * 58.8 | * 25.86 | * 53.1 | * 28.09 | 57.0 | 27.50 |
| 27       | 61.0   | 25.21   | 53.7   | 28.31   | 55.0 | 28.08 |
| 28       | 63.8   | 24.94   | 55.6   | 27.90   | 56.5 | 27.28 |
| 29       | 58.5   | 26.83   | 54.3   | 28.22   | 56.2 | 27.80 |
| 30       | 57.2   | 27.42   | 57.4   | 27.58   | 57.0 | 27.41 |
| 31       | 54.1   | 27.92   | 57.2   | 27.93   | 0    | 0     |
| MEANS    | 58.1   | 26.21   | 54.8   | 27.82   | 54.9 | 27.85 |
| OBSVNS.  | 30     | 30      | 29     | 29      | 30   | 30    |
| MAXIMUM  | 63.8   | 27.92   | 62.5   | 28.90   | 60.5 | 29.00 |
| MINIMUM  | 54.0   | 24.54   | 50.8   | 23.60   | 51.2 | 26.56 |
| STD.DEV. | 2.82   | .94     | 2.80   | 1.11    | 2.37 | .65   |

CAPE MUDGE

49 59 56 N

125 11 38 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|-------------|--------|---------|--------|---------|--------|---------|
| 1           | 55.0   | 28.25   | 49.4   | 28.67   | 47.0   | 28.48   |
| 2           | 50.0   | 28.48   | 49.1   | 28.57   | 46.5   | 26.07   |
| 3           | 49.5   | 28.80   | 49.0   | 28.07   | * 46.7 | * 26.82 |
| 4           | 49.8   | 28.77   | 48.7   | 28.72   | 47.0   | 27.57   |
| 5           | 50.4   | 28.23   | 48.4   | 28.84   | 47.0   | 27.63   |
| 6           | 52.0   | 28.66   | 48.4   | 28.80   | 47.2   | 28.93   |
| 7           | 51.0   | 28.30   | 48.5   | 28.93   | 46.0   | 28.77   |
| 8           | 53.0   | 28.40   | 47.2   | 29.19   | 47.0   | 28.91   |
| 9           | * 52.6 | * 28.62 | 48.0   | 29.36   | * 0    | * 0     |
| 10          | 52.1   | 28.85   | 47.9   | 29.33   | * 0    | * 0     |
| 11          | 52.0   | 29.09   | 46.0   | 29.08   | * 0    | * 0     |
| 12          | 52.1   | 29.14   | 48.0   | 29.91   | 46.2   | 26.99   |
| 13          | 50.5   | 29.29   | * 0    | * 0     | 47.2   | 29.00   |
| 14          | 49.4   | 29.30   | * 0    | * 0     | * 46.9 | * 27.60 |
| 15          | 50.1   | 28.62   | * 0    | * 0     | 46.6   | 26.21   |
| 16          | 49.0   | 29.88   | 48.0   | 29.44   | 47.0   | 28.10   |
| 17          | 49.3   | 29.40   | 47.8   | 29.31   | 47.0   | 27.01   |
| 18          | * 49.0 | * 29.26 | 48.0   | 29.17   | 47.1   | 28.22   |
| 19          | * 48.7 | * 29.11 | 47.5   | 28.13   | 47.0   | 26.05   |
| 20          | 48.4   | 28.97   | 48.0   | 28.74   | 47.1   | 27.88   |
| 21          | 49.1   | 29.19   | 49.1   | 28.83   | 46.0   | 25.68   |
| 22          | 49.3   | 29.31   | 48.5   | 28.95   | 46.5   | 27.21   |
| 23          | 50.5   | 28.71   | 48.2   | 28.99   | 45.8   | 25.63   |
| 24          | 50.9   | 28.90   | * 48.2 | * 29.25 | 46.7   | 28.00   |
| 25          | 51.0   | 28.97   | 48.1   | 29.48   | 46.6   | 27.40   |
| 26          | 50.5   | 29.12   | 47.0   | 28.76   | 46.5   | 28.24   |
| 27          | 50.1   | 29.19   | * 47.2 | * 28.88 | 45.0   | 26.98   |
| 28          | 49.2   | 29.15   | 47.4   | 28.99   | 45.3   | 27.14   |
| 29          | 50.4   | 29.60   | 47.5   | 29.04   | 46.4   | 28.68   |
| 30          | 49.5   | 28.80   | 47.2   | 29.04   | 46.9   | 27.27   |
| 31          | 49.5   | 29.08   | 0      | 0       | 46.0   | 27.90   |
| MEANS       | 50.5   | 28.94   | 48.0   | 28.97   | 46.6   | 27.54   |
| OBSVNS.     | 28     | 28      | 25     | 25      | 26     | 26      |
| YRLY. MEANS |        |         |        |         | 50.6   | 28.35   |
| MAXIMUM     | 55.0   | 29.88   | 49.4   | 29.91   | 47.2   | 29.00   |
| MINIMUM     | 48.4   | 28.23   | 46.0   | 28.07   | 45.0   | 25.63   |
| STD. DEV.   | 1.43   | .40     | .76    | .40     | .59    | 1.02    |

CHROME ISLAND

49 28 20 N

124 40 57 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP   | SAL   | TEMP | SAL   | TEMP | SAL   |
|----------|--------|-------|------|-------|------|-------|
| 1        | * 43.4 | 28.42 | 44.3 | 28.43 | 44.0 | 28.76 |
| 2        | 43.0   | 28.30 | 44.0 | 28.20 | 44.1 | 28.65 |
| 3        | 44.2   | 28.46 | 44.0 | 28.34 | 43.3 | 28.72 |
| 4        | 42.0   | 27.80 | 44.3 | 28.27 | 44.5 | 28.83 |
| 5        | 41.5   | 27.72 | 44.4 | 28.34 | 44.8 | 28.95 |
| 6        | 43.5   | 28.06 | 44.5 | 28.42 | 45.2 | 29.10 |
| 7        | 44.0   | 28.26 | 44.2 | 27.64 | 45.3 | 29.18 |
| 8        | 43.6   | 26.88 | 43.7 | 28.21 | 45.5 | 29.18 |
| 9        | 44.5   | 28.35 | 44.0 | 28.35 | 45.8 | 29.29 |
| 10       | 45.0   | 28.51 | 43.0 | 27.56 | 45.3 | 29.12 |
| 11       | 44.3   | 28.47 | 44.0 | 28.34 | 45.3 | 29.16 |
| 12       | 44.8   | 28.55 | 43.6 | 28.38 | 45.1 | 28.79 |
| 13       | 45.4   | 28.71 | 44.0 | 28.32 | 45.4 | 28.87 |
| 14       | 44.7   | 28.24 | 43.8 | 28.34 | 45.7 | 29.00 |
| 15       | 44.6   | 27.58 | 43.4 | 28.01 | 45.6 | 29.02 |
| 16       | 44.3   | 26.40 | 43.5 | 28.13 | 45.5 | 29.03 |
| 17       | 44.4   | 27.90 | 43.8 | 28.15 | 45.6 | 29.13 |
| 18       | 44.0   | 28.06 | 44.0 | 28.18 | 45.5 | 29.17 |
| 19       | 42.7   | 26.50 | 44.0 | 28.03 | 45.4 | 29.21 |
| 20       | 43.2   | 27.83 | 44.3 | 28.33 | 45.7 | 29.24 |
| 21       | 44.0   | 28.31 | 44.4 | 28.40 | 45.6 | 28.83 |
| 22       | 43.5   | 28.26 | 44.5 | 28.37 | 45.1 | 28.79 |
| 23       | 44.0   | 28.23 | 44.3 | 28.55 | 45.5 | 28.86 |
| 24       | 42.5   | 28.08 | 44.2 | 28.59 | 45.4 | 28.76 |
| 25       | 42.8   | 28.05 | 44.6 | 28.62 | 44.5 | 28.81 |
| 26       | 44.0   | 28.45 | 45.0 | 28.87 | 44.9 | 28.61 |
| 27       | 44.0   | 28.41 | 44.8 | 29.08 | 45.5 | 28.70 |
| 28       | 43.8   | 28.35 | 43.8 | 28.86 | 45.8 | 28.79 |
| 29       | 44.8   | 28.78 | 0    | 0     | 46.3 | 28.76 |
| 30       | 44.6   | 27.95 | 0    | 0     | 45.9 | 28.84 |
| 31       | 44.6   | 27.80 | 0    | 0     | 46.3 | 28.24 |
| MEANS    | 43.9   | 28.05 | 44.1 | 28.33 | 45.3 | 28.92 |
| OBSVNS.  | 30     | 31    | 28   | 28    | 31   | 31    |
| MAXIMUM  | 45.4   | 28.78 | 45.0 | 29.08 | 46.3 | 29.29 |
| MINIMUM  | 41.5   | 26.40 | 43.0 | 27.56 | 43.3 | 28.24 |
| STD.DEV. | .91    | .57   | .43  | .32   | .65  | .23   |

CHROME ISLAND

49 28 20 N

124 40 57 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|----------|------|-------|------|-------|------|-------|
| 1        | 47.3 | 27.94 | 51.0 | 28.43 | 55.9 | 27.54 |
| 2        | 47.0 | 28.20 | 51.4 | 28.46 | 54.7 | 27.40 |
| 3        | 48.5 | 27.88 | 52.0 | 28.86 | 52.6 | 28.23 |
| 4        | 49.2 | 28.06 | 52.6 | 28.42 | 53.6 | 28.10 |
| 5        | 48.5 | 28.59 | 54.5 | 27.84 | 53.9 | 27.74 |
| 6        | 49.3 | 28.34 | 49.3 | 28.60 | 55.5 | 27.67 |
| 7        | 49.8 | 28.22 | 48.7 | 28.75 | 58.0 | 27.61 |
| 8        | 48.1 | 28.45 | 51.0 | 27.95 | 57.4 | 27.34 |
| 9        | 48.3 | 28.28 | 53.5 | 23.72 | 56.4 | 27.86 |
| 10       | 46.0 | 28.91 | 52.5 | 23.72 | 55.2 | 28.05 |
| 11       | 45.0 | 29.01 | 52.3 | 28.40 | 57.5 | 28.71 |
| 12       | 44.8 | 29.05 | 53.7 | 28.04 | 53.6 | 28.75 |
| 13       | 45.3 | 29.09 | 53.8 | 26.61 | 52.4 | 28.71 |
| 14       | 46.0 | 28.92 | 52.8 | 27.37 | 55.3 | 27.79 |
| 15       | 47.3 | 28.92 | 51.7 | 28.56 | 62.0 | 25.01 |
| 16       | 48.7 | 28.26 | 51.3 | 28.79 | 57.5 | 26.07 |
| 17       | 48.6 | 28.06 | 52.6 | 28.56 | 55.0 | 27.56 |
| 18       | 48.6 | 28.04 | 52.0 | 28.76 | 54.9 | 27.00 |
| 19       | 50.0 | 27.94 | 53.0 | 28.84 | 54.3 | 27.97 |
| 20       | 49.8 | 28.16 | 51.7 | 28.77 | 54.2 | 27.60 |
| 21       | 49.6 | 28.09 | 49.4 | 29.19 | 54.4 | 27.34 |
| 22       | 50.6 | 28.10 | 51.3 | 29.13 | 53.5 | 27.17 |
| 23       | 49.5 | 28.33 | 50.8 | 28.77 | 55.6 | 26.31 |
| 24       | 49.2 | 28.15 | 51.7 | 28.51 | 56.7 | 24.88 |
| 25       | 48.9 | 28.19 | 51.5 | 28.64 | 59.0 | 22.56 |
| 26       | 48.6 | 27.03 | 53.2 | 27.80 | 58.5 | 24.20 |
| 27       | 49.2 | 27.19 | 52.4 | 28.21 | 55.7 | 26.40 |
| 28       | 49.2 | 28.12 | 54.4 | 27.21 | 51.9 | 28.37 |
| 29       | 50.1 | 27.94 | 54.9 | 26.85 | 54.8 | 27.89 |
| 30       | 50.0 | 28.17 | 55.3 | 28.82 | 57.2 | 26.33 |
| 31       | 0    | 0     | 54.8 | 26.58 | 0    | 0     |
| MEANS    | 48.4 | 28.25 | 52.3 | 27.97 | 55.6 | 27.14 |
| OBSVNS.  | 30   | 30    | 31   | 31    | 30   | 30    |
| MAXIMUM  | 50.6 | 29.09 | 55.3 | 29.19 | 62.0 | 28.75 |
| MINIMUM  | 44.8 | 27.03 | 48.7 | 23.72 | 51.9 | 22.56 |
| STD.DEV. | 1.59 | .48   | 1.63 | 1.33  | 2.18 | 1.41  |



CHROME ISLAND

49 28 20 N

124 40 57 W

JULY

AUGUST

SEPTEMBER 1966

| DATE | TEMP | SAL   | TEMP | SAL   | TEMP | SAL     |
|------|------|-------|------|-------|------|---------|
| 1    | 56.2 | 24.96 | 66.3 | 22.64 | 56.7 | 27.72   |
| 2    | 57.3 | 24.71 | 66.3 | 22.89 | 56.1 | 26.37   |
| 3    | 56.5 | 25.35 | 67.5 | 22.66 | 58.5 | 26.26   |
| 4    | 56.8 | 26.22 | 67.2 | 22.87 | 59.5 | 26.31   |
| 5    | 57.4 | 25.39 | 68.0 | 22.93 | 59.3 | 26.06   |
| 6    | 57.5 | 24.39 | 66.0 | 23.32 | 60.1 | 25.77   |
| 7    | 58.0 | 24.38 | 66.6 | 23.37 | 61.0 | 25.55   |
| 8    | 59.5 | 25.12 | 66.3 | 23.56 | 60.9 | 25.95   |
| 9    | 58.8 | 25.96 | 59.0 | 26.12 | 59.0 | 26.66   |
| 10   | 61.4 | 25.32 | 60.5 | 25.71 | 57.7 | 27.17   |
| 11   | 61.8 | 25.34 | 64.0 | 24.60 | 54.9 | 27.34   |
| 12   | 63.7 | 25.34 | 63.5 | 24.79 | 56.3 | 27.36   |
| 13   | 64.8 | 23.67 | 63.8 | 25.04 | 58.3 | 27.34   |
| 14   | 64.6 | 23.73 | 59.9 | 26.16 | 57.5 | 27.10   |
| 15   | 62.7 | 25.22 | 63.2 | 25.09 | 55.0 | 27.31   |
| 16   | 60.1 | 26.20 | 64.2 | 24.67 | 55.1 | 27.79   |
| 17   | 58.8 | 26.59 | 62.4 | 25.24 | 53.8 | * 28.18 |
| 18   | 57.6 | 26.70 | 63.0 | 24.58 | 51.6 | 28.57   |
| 19   | 58.2 | 26.46 | 63.7 | 24.75 | 52.5 | 28.41   |
| 20   | 62.0 | 21.46 | 62.2 | 24.73 | 52.4 | 27.92   |
| 21   | 61.3 | 20.84 | 61.2 | 25.43 | 54.8 | 27.96   |
| 22   | 61.8 | 22.07 | 63.2 | 25.06 | 56.1 | 26.57   |
| 23   | 62.8 | 22.08 | 63.9 | 25.08 | 54.3 | 28.06   |
| 24   | 61.9 | 23.16 | 64.3 | 25.33 | 54.9 | 27.65   |
| 25   | 62.2 | 23.01 | 63.0 | 25.76 | 55.0 | 27.66   |
| 26   | 62.0 | 24.61 | 57.3 | 27.11 | 55.5 | 27.84   |
| 27   | 63.9 | 24.71 | 52.5 | 28.55 | 54.5 | 28.14   |
| 28   | 64.0 | 21.85 | 53.0 | 28.67 | 51.7 | * 28.19 |
| 29   | 64.8 | 22.23 | 55.0 | 28.48 | 54.5 | 28.24   |
| 30   | 65.7 | 22.54 | 54.9 | 28.36 | 55.5 | 28.05   |
| 31   | 67.0 | 22.19 | 56.5 | 27.80 | 0    | 0       |

|          |      |       |      |       |      |       |
|----------|------|-------|------|-------|------|-------|
| MEANS    | 61.0 | 24.25 | 62.2 | 25.20 | 56.1 | 27.25 |
| OBSVNS.  | 31   | 31    | 31   | 31    | 30   | 28    |
| MAXIMUM  | 67.0 | 26.70 | 68.0 | 28.67 | 61.0 | 28.57 |
| MINIMUM  | 56.2 | 20.84 | 52.5 | 22.64 | 51.6 | 25.55 |
| STD.DEV. | 3.04 | 1.68  | 4.30 | 1.80  | 2.61 | .86   |

CHROME ISLAND

49 28 20 N

124 40 57 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP | SAL   | TEMP   | SAL   | TEMP   | SAL     |
|-------------|------|-------|--------|-------|--------|---------|
| 1           | 55.4 | 27.76 | 49.5   | 28.85 | 46.6   | 26.85   |
| 2           | 56.2 | 27.37 | 49.0   | 28.28 | 47.0   | 27.63   |
| 3           | 55.0 | 27.59 | 49.0   | 28.19 | 47.2   | 28.28   |
| 4           | 56.0 | 27.09 | 49.2   | 28.32 | 47.3   | 28.73   |
| 5           | 55.2 | 27.02 | 49.4   | 28.33 | 47.2   | 28.85   |
| 6           | 53.7 | 28.08 | 49.2   | 28.17 | 46.7   | 28.53   |
| 7           | 53.2 | 28.17 | 48.8   | 28.04 | 46.7   | 28.45   |
| 8           | 52.7 | 28.42 | 48.3   | 28.03 | * 46.2 | 24.96   |
| 9           | 52.8 | 28.53 | 48.5   | 28.27 | 45.8   | 27.88   |
| 10          | 52.2 | 28.47 | 47.8   | 28.22 | 46.2   | 28.18   |
| 11          | 52.4 | 28.49 | 48.0   | 28.28 | 46.7   | 28.81   |
| 12          | 52.3 | 28.36 | 48.5   | 28.36 | 46.9   | 28.49   |
| 13          | 52.5 | 27.98 | 48.8   | 28.68 | 47.0   | 28.45   |
| 14          | 51.5 | 28.33 | 48.3   | 28.89 | 46.9   | 28.46   |
| 15          | 51.8 | 28.10 | 48.2   | 28.92 | 46.8   | 28.54   |
| 16          | 51.8 | 28.29 | 48.1   | 29.16 | 47.0   | 28.28   |
| 17          | 50.9 | 28.33 | 47.9   | 29.06 | 47.0   | 27.90   |
| 18          | 50.6 | 28.74 | 48.1   | 28.91 | 47.2   | 28.12   |
| 19          | 50.5 | 28.91 | 48.2   | 28.79 | 47.0   | 27.93   |
| 20          | 49.5 | 29.08 | 48.4   | 28.97 | 44.5   | 23.77   |
| 21          | 49.1 | 29.23 | 48.7   | 28.95 | 46.2   | 26.89   |
| 22          | 49.0 | 29.31 | 48.0   | 28.25 | 45.0   | 27.04   |
| 23          | 50.0 | 29.21 | 47.5   | 25.71 | 46.2   | 27.61   |
| 24          | 49.8 | 29.22 | 48.0   | 28.17 | 46.1   | 27.85   |
| 25          | 50.0 | 28.91 | 47.5   | 27.98 | 45.6   | 26.95   |
| 26          | 50.0 | 28.98 | 47.7   | 28.47 | 44.6   | 26.31   |
| 27          | 49.9 | 28.17 | * 47.1 | 28.73 | 45.2   | 27.31   |
| 28          | 49.9 | 28.29 | 46.5   | 18.71 | 45.2   | 27.46   |
| 29          | 50.7 | 28.45 | 45.6   | 22.81 | * 45.4 | * 27.63 |
| 30          | 49.8 | 28.43 | 44.8   | 19.84 | 45.6   | 27.80   |
| 31          | 50.2 | 28.55 | 0      | 0     | 45.8   | 27.93   |
| MEANS       | 51.8 | 28.38 | 48.1   | 27.61 | 46.3   | 27.67   |
| OBSVNS.     | 31   | 31    | 29     | 30    | 29     | 30      |
| YRLY. MEANS |      |       |        |       | 51.4   | 27.41   |
| MAXIMUM     | 56.2 | 29.31 | 49.5   | 29.16 | 47.3   | 28.85   |
| MINIMUM     | 49.0 | 27.02 | 44.8   | 18.71 | 44.5   | 23.77   |
| STD. DEV.   | 2.11 | .59   | 1.04   | 2.56  | .83    | 1.12    |

ENTRANCE ISLAND

49 12 34 N

123 48 27 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP   | SAL     | TEMP | SAL   | TEMP | SAL   |
|----------|--------|---------|------|-------|------|-------|
| 1        | 43.8   | 27.90   | 43.4 | 27.21 | 42.9 | 26.97 |
| 2        | 42.8   | 27.69   | 43.0 | 25.79 | 43.2 | 27.12 |
| 3        | 42.8   | 27.78   | 41.8 | 25.43 | 43.6 | 26.30 |
| 4        | 43.0   | 28.16   | 43.3 | 26.54 | 44.3 | 28.17 |
| 5        | 43.0   | 28.29   | 44.4 | 27.51 | 46.0 | 29.25 |
| 6        | 45.4   | 28.32   | 44.8 | 28.44 | 46.5 | 29.52 |
| 7        | 45.5   | 28.46   | 43.8 | 26.53 | 46.4 | 29.61 |
| 8        | 44.6   | 27.86   | 44.2 | 28.12 | 46.8 | 29.69 |
| 9        | 43.5   | 27.49   | 43.0 | 27.62 | 46.6 | 29.70 |
| 10       | * 44.6 | * 27.72 | 42.7 | 27.09 | 45.7 | 29.15 |
| 11       | 45.6   | 27.95   | 44.2 | 28.20 | 44.9 | 28.91 |
| 12       | 46.8   | 29.18   | 43.0 | 27.60 | 45.7 | 28.88 |
| 13       | 47.8   | 29.49   | 43.8 | 28.07 | 45.3 | 27.90 |
| 14       | 45.8   | 28.84   | 43.7 | 28.06 | 45.6 | 28.43 |
| 15       | 45.3   | 25.23   | 43.8 | 28.03 | 45.8 | 29.06 |
| 16       | 43.4   | 26.11   | 43.3 | 28.01 | 46.0 | 27.35 |
| 17       | 43.7   | 26.57   | 43.8 | 28.06 | 45.2 | 28.07 |
| 18       | 43.8   | 27.18   | 44.3 | 27.79 | 45.8 | 29.00 |
| 19       | 43.8   | 26.56   | 44.2 | 27.95 | 46.0 | 29.09 |
| 20       | 42.9   | 27.81   | 44.4 | 28.07 | 45.8 | 28.92 |
| 21       | 44.6   | 28.47   | 44.8 | 28.03 | 45.8 | 27.79 |
| 22       | 43.7   | 27.85   | 44.8 | 28.27 | 45.2 | 28.22 |
| 23       | 44.2   | 28.50   | 45.0 | 28.65 | 44.3 | 27.36 |
| 24       | 43.0   | 28.21   | 45.1 | 28.63 | 44.7 | 28.19 |
| 25       | 44.0   | 28.51   | 45.6 | 28.98 | 44.9 | 26.96 |
| 26       | 44.5   | 28.44   | 45.6 | 28.87 | 45.3 | 26.66 |
| 27       | 44.2   | 27.96   | 45.2 | 28.99 | 45.2 | 26.99 |
| 28       | 44.2   | 28.06   | 44.1 | 28.36 | 45.8 | 27.79 |
| 29       | 45.0   | 28.57   | 0    | 0     | 46.0 | 28.44 |
| 30       | 44.8   | 28.17   | 0    | 0     | 46.5 | 28.60 |
| 31       | 44.6   | 27.99   | 0    | 0     | 47.0 | 26.72 |
| MEANS    | 44.3   | 27.92   | 44.0 | 27.82 | 45.4 | 28.22 |
| OBSVNS.  | 30     | 30      | 28   | 28    | 31   | 31    |
| MAXIMUM  | 47.8   | 29.49   | 45.6 | 28.99 | 47.0 | 29.70 |
| MINIMUM  | 42.8   | 25.23   | 41.8 | 25.43 | 42.9 | 26.30 |
| STD.DEV. | 1.20   | .88     | .91  | .88   | .99  | 1.00  |

ENTRANCE ISLAND 49 12 34 N 123 48 27 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|----------|------|-------|------|-------|------|-------|
| 1        | 46.5 | 27.63 | 52.2 | 28.32 | 56.0 | 26.77 |
| 2        | 47.5 | 28.22 | 55.2 | 28.10 | 54.2 | 26.84 |
| 3        | 48.8 | 27.70 | 53.0 | 28.10 | 53.5 | 26.94 |
| 4        | 49.8 | 27.09 | 53.8 | 27.83 | 54.5 | 26.62 |
| 5        | 52.5 | 26.67 | 53.4 | 27.12 | 53.5 | 27.19 |
| 6        | 50.1 | 27.34 | 54.7 | 26.94 | 54.3 | 23.14 |
| 7        | 48.3 | 27.04 | 53.0 | 27.05 | 57.0 | 26.18 |
| 8        | 47.8 | 27.68 | 52.7 | 27.80 | 54.8 | 27.47 |
| 9        | 47.6 | 26.66 | 52.7 | 27.68 | 54.2 | 27.68 |
| 10       | 46.7 | 28.62 | 52.4 | 27.68 | 53.8 | 28.24 |
| 11       | 46.3 | 27.92 | 53.0 | 27.46 | 56.9 | 27.12 |
| 12       | 46.2 | 28.21 | 52.6 | 27.72 | 57.2 | 26.11 |
| 13       | 46.5 | 28.29 | 52.5 | 27.98 | 54.8 | 27.37 |
| 14       | 46.0 | 29.08 | 52.8 | 27.67 | 55.6 | 25.02 |
| 15       | 47.3 | 29.02 | 50.8 | 28.60 | 62.5 | 16.94 |
| 16       | 48.7 | 26.03 | 52.5 | 28.56 | 64.2 | 13.87 |
| 17       | 49.2 | 26.04 | 52.8 | 28.53 | 60.6 | 19.64 |
| 18       | 48.8 | 26.03 | 56.7 | 22.32 | 53.3 | 27.58 |
| 19       | 50.2 | 26.08 | 57.0 | 22.56 | 56.6 | 25.38 |
| 20       | 50.3 | 26.16 | 54.0 | 27.51 | 54.6 | 27.09 |
| 21       | 50.2 | 26.53 | 52.0 | 27.71 | 52.8 | 27.49 |
| 22       | 49.2 | 26.79 | 53.6 | 19.14 | 54.2 | 26.07 |
| 23       | 49.0 | 27.49 | 54.2 | 21.22 | 57.0 | 23.62 |
| 24       | 48.7 | 27.76 | 52.6 | 25.91 | 57.8 | 15.69 |
| 25       | 49.2 | 27.75 | 52.0 | 26.74 | 58.6 | 18.29 |
| 26       | 48.6 | 28.06 | 54.2 | 25.37 | 59.7 | 20.59 |
| 27       | 48.8 | 27.64 | 53.1 | 24.10 | 53.7 | 28.34 |
| 28       | 49.5 | 27.70 | 54.7 | 22.03 | 54.7 | 27.66 |
| 29       | 50.0 | 27.23 | 55.2 | 24.09 | 58.0 | 26.72 |
| 30       | 49.8 | 27.91 | 55.5 | 24.37 | 60.1 | 19.73 |
| 31       | 0    | 0     | 56.0 | 25.01 | 0    | 0     |
| MEANS    | 48.6 | 27.41 | 53.6 | 26.17 | 56.3 | 24.58 |
| OBSVNS.  | 30   | 30    | 31   | 31    | 30   | 30    |
| MAXIMUM  | 52.5 | 29.08 | 57.0 | 28.60 | 64.2 | 28.34 |
| MINIMUM  | 46.0 | 26.03 | 50.8 | 19.14 | 52.8 | 13.87 |
| STD.DEV. | 1.52 | .87   | 1.46 | 2.51  | 2.87 | 4.11  |

ENTRANCE ISLAND 44 12 34 N 123 48 27 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|----------|------|-------|------|-------|------|-------|
| 1        | 58.0 | 15.59 | 65.2 | 21.98 | 59.0 | 25.45 |
| 2        | 58.2 | 18.90 | 68.0 | 20.83 | 57.9 | 25.16 |
| 3        | 54.6 | 26.43 | 70.0 | 18.15 | 61.8 | 20.90 |
| 4        | 54.2 | 25.95 | 66.8 | 19.56 | 61.8 | 22.02 |
| 5        | 56.2 | 24.75 | 67.0 | 19.31 | 60.6 | 24.16 |
| 6        | 57.3 | 21.27 | 67.5 | 20.65 | 61.0 | 24.61 |
| 7        | 58.5 | 18.11 | 68.0 | 21.12 | 61.4 | 25.11 |
| 8        | 59.6 | 20.71 | 67.5 | 21.92 | 61.5 | 25.24 |
| 9        | 60.0 | 19.38 | 67.2 | 23.04 | 58.2 | 26.57 |
| 10       | 59.4 | 21.63 | 63.5 | 24.36 | 57.0 | 26.63 |
| 11       | 59.5 | 23.07 | 66.9 | 19.60 | 59.4 | 23.08 |
| 12       | 63.5 | 17.83 | 66.1 | 21.24 | 59.2 | 22.60 |
| 13       | 63.7 | 17.54 | 65.0 | 22.80 | 60.3 | 23.93 |
| 14       | 61.7 | 21.27 | 64.3 | 22.59 | 60.2 | 23.18 |
| 15       | 59.9 | 23.10 | 66.8 | 23.56 | 53.5 | 27.95 |
| 16       | 58.2 | 25.71 | 65.0 | 20.37 | 54.9 | 26.91 |
| 17       | 60.0 | 24.70 | 63.8 | 21.32 | 54.1 | 27.52 |
| 18       | 58.0 | 25.64 | 63.0 | 23.03 | 54.2 | 26.76 |
| 19       | 60.8 | 20.36 | 62.5 | 23.12 | 55.5 | 25.23 |
| 20       | 61.3 | 14.04 | 62.2 | 24.22 | 56.8 | 24.36 |
| 21       | 62.6 | 16.05 | 63.0 | 24.57 | 58.0 | 23.84 |
| 22       | 63.7 | 16.08 | 62.2 | 25.09 | 59.6 | 24.20 |
| 23       | 62.4 | 19.33 | 62.0 | 25.13 | 59.8 | 24.24 |
| 24       | 62.6 | 20.19 | 63.5 | 24.57 | 59.2 | 24.62 |
| 25       | 63.9 | 20.09 | 62.7 | 25.25 | 56.9 | 26.09 |
| 26       | 61.5 | 24.09 | 55.5 | 27.45 | 57.4 | 26.71 |
| 27       | 64.0 | 22.15 | 54.0 | 28.56 | 54.6 | 28.00 |
| 28       | 68.2 | 17.03 | 54.8 | 28.29 | 53.8 | 28.44 |
| 29       | 68.0 | 16.04 | 54.4 | 28.40 | 57.8 | 26.48 |
| 30       | 68.3 | 17.04 | 58.9 | 27.49 | 60.0 | 24.82 |
| 31       | 68.0 | 18.25 | 57.8 | 26.57 | 0    | 0     |
| MEANS    | 61.2 | 20.40 | 63.4 | 23.36 | 58.2 | 25.16 |
| OBSVNS.  | 31   | 31    | 31   | 31    | 30   | 30    |
| MAXIMUM  | 68.3 | 26.43 | 70.0 | 28.56 | 61.8 | 28.44 |
| MINIMUM  | 54.2 | 14.04 | 54.0 | 18.15 | 53.5 | 20.90 |
| STD.DEV. | 3.75 | 3.50  | 4.33 | 2.88  | 2.58 | 1.83  |



ENTRANCE ISLAND 49 12 34 N 123 48 27 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP | SAL   | TEMP | SAL   | TEMP | SAL     |
|-------------|------|-------|------|-------|------|---------|
| 1           | 59.2 | 24.91 | 49.4 | 26.00 | 47.7 | 28.12   |
| 2           | 56.8 | 26.13 | 49.8 | 26.49 | 48.0 | 28.44   |
| 3           | 56.4 | 26.00 | 49.5 | 26.42 | 47.8 | 28.61   |
| 4           | 56.6 | 26.29 | 49.5 | 26.39 | 48.2 | 29.32   |
| 5           | 57.6 | 26.13 | 49.5 | 26.95 | 47.6 | 29.14   |
| 6           | 54.2 | 27.61 | 48.8 | 26.32 | 47.6 | 29.55   |
| 7           | 53.6 | 28.05 | 48.5 | 25.88 | 47.2 | 28.42   |
| 8           | 52.1 | 28.65 | 48.2 | 26.91 | 46.3 | 27.37   |
| 9           | 52.9 | 28.32 | 49.3 | 28.32 | 45.7 | 27.64   |
| 10          | 52.5 | 28.37 | 48.6 | 28.00 | 47.4 | 28.78   |
| 11          | 53.9 | 26.52 | 47.8 | 27.64 | 47.8 | 28.93   |
| 12          | 54.1 | 26.80 | 49.0 | 28.04 | 47.8 | 29.05   |
| 13          | 54.2 | 26.26 | 49.0 | 28.56 | 47.7 | 24.10   |
| 14          | 52.9 | 27.27 | 49.2 | 29.03 | 43.8 | * 26.35 |
| 15          | 52.5 | 27.49 | 48.9 | 29.25 | 47.5 | 28.60   |
| 16          | 52.6 | 27.67 | 48.3 | 28.31 | 47.6 | 27.82   |
| 17          | 51.7 | 27.66 | 48.5 | 29.21 | 47.6 | 27.93   |
| 18          | 51.2 | 28.53 | 48.6 | 29.11 | 46.8 | 26.67   |
| 19          | 49.8 | 29.31 | 49.0 | 29.11 | 47.3 | 28.07   |
| 20          | 49.0 | 29.37 | 49.3 | 29.26 | 46.2 | 25.56   |
| 21          | 49.2 | 29.30 | 48.9 | 27.97 | 44.3 | 22.07   |
| 22          | 48.8 | 29.48 | 48.9 | 27.60 | 45.2 | 27.00   |
| 23          | 49.8 | 29.44 | 48.2 | 27.35 | 45.8 | 25.73   |
| 24          | 49.8 | 29.31 | 48.2 | 27.51 | 46.5 | 27.69   |
| 25          | 50.1 | 29.35 | 48.2 | 27.90 | 45.8 | 26.91   |
| 26          | 49.9 | 29.40 | 47.2 | 27.68 | 43.9 | 20.98   |
| 27          | 50.8 | 22.63 | 48.7 | 29.34 | 44.0 | 22.78   |
| 28          | 50.1 | 23.03 | 48.3 | 29.36 | 46.3 | 28.07   |
| 29          | 50.6 | 27.48 | 47.2 | 26.60 | 46.2 | 28.02   |
| 30          | 50.7 | 26.83 | 46.6 | 25.83 | 45.0 | 26.32   |
| 31          | 50.3 | 26.91 | 0    | 0     | 44.6 | 24.87   |
| MEANS       | 52.4 | 27.44 | 48.6 | 27.74 | 46.5 | 27.09   |
| OBSVNS.     | 31   | 31    | 30   | 30    | 31   | 30      |
| YRLY. MEANS |      |       |      |       | 52.0 | 26.09   |
| MAXIMUM     | 59.2 | 29.48 | 49.8 | 29.36 | 48.2 | 29.55   |
| MINIMUM     | 48.8 | 22.63 | 46.6 | 25.83 | 43.8 | 20.98   |
| STD. DEV.   | 2.75 | 1.77  | .74  | 1.16  | 1.36 | 2.19    |

DEPARTURE BAY

44 12 38 N

123 57 17 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|----------|--------|---------|--------|---------|--------|---------|
| 1        | 42.7   | 26.24   | 44.1   | 24.25   | 42.6   | 26.81   |
| 2        | 41.5   | 26.41   | 42.6   | 25.22   | 42.4   | 26.99   |
| 3        | * 41.8 | * 26.68 | 42.1   | 25.64   | 42.2   | 26.45   |
| 4        | 42.0   | 27.36   | 42.4   | 23.69   | 41.7   | 26.48   |
| 5        | 40.9   | 26.34   | 43.2   | 23.68   | 44.4   | 26.25   |
| 6        | * 42.0 | * 26.23 | 43.5   | 23.28   | 45.5   | 25.82   |
| 7        | 43.1   | 26.11   | 44.8   | 28.12   | 44.2   | 26.44   |
| 8        | 43.1   | 24.25   | 44.2   | 28.03   | 44.1   | 25.13   |
| 9        | 42.5   | 24.20   | 43.2   | 26.55   | 45.9   | 27.59   |
| 10       | 42.7   | 22.25   | * 42.8 | * 25.69 | 44.2   | 26.23   |
| 11       | 44.2   | 27.20   | 42.5   | 24.82   | 45.0   | 28.30   |
| 12       | 42.8   | 22.08   | 44.5   | 28.24   | 45.1   | 26.46   |
| 13       | 44.3   | 20.93   | 43.5   | 28.10   | 45.8   | 24.54   |
| 14       | 45.1   | 25.50   | 43.1   | 28.01   | 45.8   | 23.65   |
| 15       | 45.5   | 22.45   | 42.5   | 27.55   | 44.7   | 21.18   |
| 16       | 44.0   | 26.02   | 42.9   | 26.77   | 44.4   | 26.18   |
| 17       | 44.1   | 26.41   | 43.5   | 27.01   | 44.0   | 25.36   |
| 18       | 44.4   | 27.84   | 44.5   | 27.71   | 44.2   | 22.95   |
| 19       | 43.7   | 27.92   | 44.1   | 28.16   | 43.5   | 25.62   |
| 20       | 42.4   | 26.90   | 44.5   | 25.49   | 44.9   | 25.22   |
| 21       | 41.5   | 24.72   | 44.8   | 26.93   | 43.8   | 27.66   |
| 22       | 41.5   | 26.17   | 44.7   | 26.72   | * 44.2 | * 27.45 |
| 23       | 43.5   | 27.78   | 44.5   | 26.29   | 44.6   | 27.24   |
| 24       | 42.2   | 27.33   | 45.0   | 28.58   | * 44.7 | * 27.16 |
| 25       | 41.5   | 26.59   | 44.8   | 26.87   | 44.8   | 27.09   |
| 26       | 42.5   | 27.36   | 44.9   | 27.72   | 44.5   | 26.71   |
| 27       | 44.5   | 28.05   | 44.9   | 28.40   | 45.7   | 27.47   |
| 28       | 43.8   | 25.39   | 44.5   | 28.42   | 45.8   | 27.84   |
| 29       | 45.5   | 26.02   | 0      | 0       | * 0    | * 0     |
| 30       | 45.5   | 24.40   | 0      | 0       | * 0    | * 0     |
| 31       | 44.3   | 24.41   | 0      | 0       | * 0    | * 0     |
| MEANS    | 43.3   | 25.68   | 43.8   | 26.68   | 44.4   | 26.06   |
| OBSVNS.  | 29     | 29      | 27     | 27      | 26     | 26      |
| MAXIMUM  | 45.5   | 28.05   | 45.0   | 28.58   | 45.9   | 28.30   |
| MINIMUM  | 40.9   | 20.93   | 42.1   | 23.28   | 41.7   | 21.18   |
| STD.DEV. | 1.33   | 1.90    | .93    | 1.63    | 1.15   | 1.60    |

DEPARTURE BAY

44 12 38 N

123 57 17 W

APRIL

MAY

JUNE

1966

| DATE     |   | TEMP |   | SAL |   | TEMP |   | SAL |   | TEMP |   | SAL   |
|----------|---|------|---|-----|---|------|---|-----|---|------|---|-------|
| 1        | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 2        | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 3        | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 4        | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 5        | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 6        | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 7        | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 8        | * | 0    | * | 0   | * | 0    | * | 0   |   | 58.9 |   | 25.08 |
| 9        | * | 0    | * | 0   | * | 0    | * | 0   |   | 54.7 |   | 27.46 |
| 10       | * | 0    | * | 0   | * | 0    | * | 0   |   | 55.4 |   | 26.89 |
| 11       | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 12       | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 13       | * | 0    | * | 0   | * | 0    | * | 0   |   | 56.1 |   | 22.41 |
| 14       | * | 0    | * | 0   | * | 0    | * | 0   |   | 58.3 |   | 25.22 |
| 15       | * | 0    | * | 0   | * | 0    | * | 0   |   | 63.7 |   | 16.99 |
| 16       | * | 0    | * | 0   | * | 0    | * | 0   |   | 63.1 |   | 15.93 |
| 17       | * | 0    | * | 0   | * | 0    | * | 0   |   | 62.5 |   | 16.92 |
| 18       | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 19       | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 20       | * | 0    | * | 0   | * | 0    | * | 0   |   | 53.3 |   | 27.38 |
| 21       | * | 0    | * | 0   | * | 0    | * | 0   |   | 55.3 |   | 26.34 |
| 22       | * | 0    | * | 0   | * | 0    | * | 0   |   | 53.9 |   | 26.93 |
| 23       | * | 0    | * | 0   | * | 0    | * | 0   |   | 57.6 |   | 19.49 |
| 24       | * | 0    | * | 0   | * | 0    | * | 0   |   | 58.6 |   | 14.46 |
| 25       | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 26       | * | 0    | * | 0   | * | 0    | * | 0   | * | 0    | * | 0     |
| 27       | * | 0    | * | 0   | * | 0    | * | 0   |   | 58.6 |   | 20.70 |
| 28       | * | 0    | * | 0   | * | 0    | * | 0   |   | 57.2 |   | 26.77 |
| 29       | * | 0    | * | 0   | * | 0    | * | 0   |   | 56.1 |   | 26.93 |
| 30       | * | 0    | * | 0   | * | 0    | * | 0   |   | 59.1 |   | 18.38 |
| 31       |   | 0    |   | 0   | * | 0    | * | 0   |   | 0    |   | 0     |
| MEANS    |   | 0    |   | 0   |   | 0    |   | 0   |   | 57.8 |   | 22.60 |
| OBSVNS.  |   | 0    |   | 0   |   | 0    |   | 0   |   | 17   |   | 17    |
| MAXIMUM  |   | 0    |   | 0   |   | 0    |   | 0   |   | 63.7 |   | 27.46 |
| MINIMUM  |   | 0    |   | 0   |   | 0    |   | 0   |   | 53.3 |   | 14.46 |
| STD.DEV. |   | 0    |   | 0   |   | 0    |   | 0   |   | 3.09 |   | 4.69  |

DEPARTURE BAY

49 12 38 N

123 57 17 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP | SAL  | DATE | TEMP  | SAL  | DATE  | TEMP | SAL   |
|----------|------|------|------|-------|------|-------|------|-------|
| 1        | *    | 0    | *    | 0     | 68.0 | 19.71 | 61.0 | 23.28 |
| 2        | *    | 0    | *    | 0     | 65.4 | 21.93 | 62.5 | 20.48 |
| 3        |      | 55.8 |      | 24.44 | 68.5 | 18.56 | *    | 0     |
| 4        |      | 58.2 |      | 23.42 | 68.6 | 18.86 | *    | 0     |
| 5        | *    | 0    | *    | 0     | 68.5 | 18.71 | *    | 0     |
| 6        |      | 58.8 |      | 20.96 | *    | 0     | *    | 0     |
| 7        |      | 58.4 |      | 20.57 | *    | 0     | *    | 0     |
| 8        |      | 60.1 |      | 19.84 | 67.6 | 21.89 | 62.2 | 25.16 |
| 9        | *    | 0    | *    | 0     | 65.6 | 22.81 | *    | 0     |
| 10       | *    | 0    | *    | 0     | 66.1 | 23.47 | *    | 0     |
| 11       |      | 59.7 |      | 22.00 | 66.4 | 21.13 | *    | 0     |
| 12       |      | 64.8 |      | 18.14 | 67.2 | 20.62 | 58.9 | 24.50 |
| 13       |      | 65.1 |      | 17.15 | *    | 0     | *    | 0     |
| 14       |      | 62.5 |      | 21.31 | *    | 0     | *    | 0     |
| 15       |      | 62.4 |      | 23.54 | 65.7 | 23.88 | 58.5 | 23.85 |
| 16       | *    | 0    | *    | 0     | 65.3 | 21.06 | 54.7 | 26.84 |
| 17       | *    | 0    | *    | 0     | *    | 0     | *    | 0     |
| 18       |      | 59.1 |      | 26.15 | 63.0 | 21.46 | *    | 0     |
| 19       |      | 58.6 |      | 23.54 | 63.0 | 22.47 | 52.2 | 28.68 |
| 20       |      | 61.4 |      | 14.14 | *    | 0     | *    | 0     |
| 21       |      | 62.0 |      | 15.12 | *    | 0     | *    | 0     |
| 22       |      | 62.9 |      | 16.28 | 63.5 | 24.53 | 60.1 | 24.03 |
| 23       | *    | 0    | *    | 0     | 64.2 | 24.75 | 60.4 | 24.09 |
| 24       | *    | 0    | *    | 0     | 63.9 | 24.76 | *    | 0     |
| 25       |      | 63.1 |      | 21.19 | 63.9 | 25.07 | *    | 0     |
| 26       |      | 62.0 |      | 23.37 | 63.0 | 26.74 | 56.9 | 26.63 |
| 27       |      | 66.1 |      | 22.15 | *    | 0     | *    | 0     |
| 28       |      | 67.7 |      | 16.52 | *    | 0     | *    | 0     |
| 29       |      | 68.4 |      | 16.44 | 55.3 | 28.22 | 59.3 | 26.03 |
| 30       | *    | 0    | *    | 0     | 57.8 | *     | 0    | 60.5  |
| 31       | *    | 0    | *    | 0     | *    | 0     | *    | 0     |
| MEANS    |      | 61.9 |      | 20.31 | 64.8 | 22.53 | 59.0 | 25.04 |
| OBSVNS.  |      | 20   |      | 20    | 21   | 20    | 19   | 19    |
| MAXIMUM  |      | 68.4 |      | 26.15 | 68.6 | 28.22 | 62.5 | 28.68 |
| MINIMUM  |      | 55.8 |      | 14.14 | 55.3 | 18.56 | 52.2 | 20.48 |
| STD.DEV. |      | 3.36 |      | 3.44  | 3.35 | 2.66  | 2.68 | 1.94  |

DEPARTURE BAY

49 12 38 N

123 57 17 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP | SAL   | TEMP | SAL   | TEMP | SAL   |
|-------------|------|-------|------|-------|------|-------|
| 1           | * 0  | * 0   | 49.4 | 25.33 | 45.7 | 20.94 |
| 2           | * 0  | * 0   | 49.4 | 26.44 | 46.9 | 24.90 |
| 3           | 56.9 | 25.88 | 49.3 | 26.70 | * 0  | * 0   |
| 4           | 56.7 | 26.22 | 49.6 | 26.91 | * 0  | * 0   |
| 5           | 56.8 | 26.34 | * 0  | * 0   | 46.1 | 23.37 |
| 6           | * 0  | * 0   | * 0  | * 0   | 46.2 | 23.80 |
| 7           | 54.5 | 27.53 | 48.7 | 26.18 | 46.5 | 27.06 |
| 8           | * 0  | * 0   | 47.7 | 26.51 | 45.6 | 26.84 |
| 9           | * 0  | * 0   | 47.3 | 26.79 | 44.1 | 25.45 |
| 10          | * 0  | * 0   | 49.2 | 28.47 | * 0  | * 0   |
| 11          | 54.5 | 27.20 | * 0  | * 0   | * 0  | * 0   |
| 12          | 55.0 | 26.63 | * 0  | * 0   | 46.3 | 24.63 |
| 13          | 54.5 | 26.47 | * 0  | * 0   | 47.0 | 24.08 |
| 14          | 53.7 | 26.67 | 48.2 | 27.98 | * 0  | * 0   |
| 15          | * 0  | * 0   | 47.1 | 27.11 | * 0  | * 0   |
| 16          | * 0  | * 0   | 49.0 | 29.55 | 47.2 | 24.92 |
| 17          | 51.5 | 27.69 | 47.9 | 26.47 | * 0  | * 0   |
| 18          | 51.4 | 27.95 | 48.7 | 26.88 | * 0  | * 0   |
| 19          | 51.1 | 27.97 | * 0  | * 0   | * 0  | * 0   |
| 20          | * 0  | * 0   | * 0  | * 0   | * 0  | * 0   |
| 21          | 49.1 | 29.22 | 48.9 | 27.59 | 44.2 | 22.37 |
| 22          | * 0  | * 0   | 48.3 | 27.59 | 44.7 | 23.52 |
| 23          | * 0  | * 0   | 47.9 | 26.99 | * 0  | * 0   |
| 24          | 50.5 | 25.95 | 47.2 | 25.72 | * 0  | * 0   |
| 25          | 51.5 | 26.58 | 48.2 | 28.42 | * 0  | * 0   |
| 26          | 51.5 | 26.19 | * 0  | * 0   | * 0  | * 0   |
| 27          | 50.6 | 24.64 | * 0  | * 0   | 42.5 | 21.10 |
| 28          | 49.9 | 24.35 | 48.5 | 29.52 | 45.4 | 26.39 |
| 29          | * 0  | * 0   | 45.9 | 23.35 | 46.0 | 26.82 |
| 30          | * 0  | * 0   | 46.2 | 24.83 | 44.9 | 25.68 |
| 31          | 50.1 | 27.43 | 0    | 0     | * 0  | * 0   |
| MEANS       | 52.8 | 26.72 | 48.2 | 26.92 | 45.6 | 24.49 |
| OBSVNS.     | 18   | 18    | 21   | 21    | 16   | 16    |
| YRLY. MEANS |      |       |      |       | 51.3 | 24.87 |
| MAXIMUM     | 56.9 | 29.22 | 49.6 | 29.55 | 47.2 | 27.06 |
| MINIMUM     | 49.1 | 24.35 | 45.9 | 23.35 | 42.5 | 20.94 |
| STD. DEV.   | 2.56 | 1.18  | 1.04 | 1.46  | 1.25 | 1.92  |



EAST POINT

48 47 05 N

123 02 36 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP | SAL   | TEMP   | SAL     | TEMP   | SAL     |
|----------|------|-------|--------|---------|--------|---------|
| 1        | * 0  | * 0   | 44.9   | 29.87   | * 44.6 | * 27.54 |
| 2        | * 0  | * 0   | 45.0   | 29.86   | 44.4   | 27.48   |
| 3        | * 0  | * 0   | 45.4   | 29.53   | 44.2   | 27.14   |
| 4        | * 0  | * 0   | 45.2   | 29.83   | * 44.0 | * 28.45 |
| 5        | * 0  | * 0   | 45.1   | 29.59   | 43.8   | 29.76   |
| 6        | 45.6 | 29.78 | 45.6   | 30.04   | 44.1   | 29.75   |
| 7        | 44.1 | 30.06 | 45.4   | 29.28   | 43.9   | 29.71   |
| 8        | 45.3 | 29.78 | 45.2   | 29.57   | 44.1   | 29.68   |
| 9        | 44.8 | 30.11 | 45.1   | 29.28   | * 44.0 | * 29.70 |
| 10       | 44.6 | 26.70 | 45.4   | 29.54   | 44.0   | 29.72   |
| 11       | 44.3 | 30.05 | * 45.1 | * 29.53 | 45.3   | 30.06   |
| 12       | 45.0 | 30.04 | 44.8   | 29.52   | 45.7   | 29.72   |
| 13       | 45.2 | 26.66 | 45.2   | 29.28   | 45.0   | 30.06   |
| 14       | 44.8 | 30.13 | 44.9   | 29.91   | 45.2   | 30.07   |
| 15       | 43.9 | 26.68 | 45.4   | 29.28   | * 45.2 | * 30.08 |
| 16       | 45.2 | 29.74 | 45.3   | 29.94   | 45.3   | 30.10   |
| 17       | 43.7 | 26.66 | 45.5   | 30.37   | 45.4   | 29.67   |
| 18       | 44.9 | 29.75 | 45.3   | 29.30   | * 45.2 | * 29.70 |
| 19       | 45.1 | 29.65 | 45.2   | 30.39   | 45.1   | 29.72   |
| 20       | 45.1 | 29.64 | 44.9   | 27.10   | 45.4   | 29.72   |
| 21       | 44.8 | 29.65 | 45.6   | 29.91   | 45.2   | 29.17   |
| 22       | 45.3 | 29.78 | 45.1   | 30.31   | 46.4   | 29.58   |
| 23       | 44.7 | 29.51 | 44.8   | 27.04   | 46.1   | 29.74   |
| 24       | 45.2 | 30.54 | 45.5   | 30.37   | 46.5   | 29.59   |
| 25       | 45.0 | 29.58 | 44.6   | 27.08   | 46.2   | 29.13   |
| 26       | 44.9 | 29.54 | 45.4   | 29.85   | 46.6   | 28.01   |
| 27       | 45.2 | 29.59 | 45.1   | 27.10   | 46.7   | 29.61   |
| 28       | 45.0 | 29.69 | 44.8   | 27.59   | 46.3   | 29.11   |
| 29       | 45.1 | 29.57 | 0      | 0       | 45.6   | 29.21   |
| 30       | 45.4 | 29.59 | 0      | 0       | 46.4   | 29.53   |
| 31       | 45.4 | 29.79 | 0      | 0       | 46.2   | 29.57   |
| MEANS    | 44.9 | 29.32 | 45.2   | 29.29   | 45.3   | 29.41   |
| OBSVNS.  | 26   | 26    | 27     | 27      | 26     | 26      |
| MAXIMUM  | 45.6 | 30.54 | 45.6   | 30.39   | 46.7   | 30.10   |
| MINIMUM  | 43.7 | 26.66 | 44.6   | 27.04   | 43.8   | 27.14   |
| STD.DEV. | .47  | 1.17  | .27    | 1.08    | .94    | .75     |

EAST POINT

48 47 05 N

123 02 36 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP   | SAL     | TEMP   | SAL     | TEMP | SAL   |
|----------|--------|---------|--------|---------|------|-------|
| 1        | 46.6   | 29.45   | 49.4   | 27.57   | 50.0 | 28.04 |
| 2        | 46.6   | 29.68   | 48.6   | 29.56   | 49.2 | 29.74 |
| 3        | 47.0   | 29.74   | 49.6   | 26.99   | 51.1 | 28.03 |
| 4        | 46.5   | 29.57   | 48.8   | 29.32   | 50.4 | 28.84 |
| 5        | 46.5   | 29.46   | 50.2   | 27.15   | 50.0 | 29.76 |
| 6        | 46.8   | 29.78   | 49.7   | 29.39   | 50.3 | 28.86 |
| 7        | 46.0   | 29.10   | 50.4   | 27.17   | 49.6 | 29.77 |
| 8        | 47.4   | 28.19   | 48.6   | 29.38   | 50.0 | 28.85 |
| 9        | 46.7   | 29.85   | 50.4   | 26.80   | 50.6 | 28.73 |
| 10       | 46.5   | 28.17   | 50.8   | 26.74   | 51.5 | 23.55 |
| 11       | 46.8   | 29.85   | 49.0   | 29.30   | 49.0 | 30.06 |
| 12       | 46.2   | 27.92   | 49.8   | 28.33   | 51.8 | 24.54 |
| 13       | 47.0   | 29.84   | 49.3   | 29.43   | 50.0 | 29.95 |
| 14       | 46.5   | 27.97   | 50.0   | 28.74   | 51.2 | 18.79 |
| 15       | 46.9   | 29.84   | * 49.8 | * 29.07 | 51.0 | 30.00 |
| 16       | 46.0   | 27.55   | 49.5   | 29.40   | 52.1 | 27.88 |
| 17       | 48.3   | 28.00   | 49.8   | 28.80   | 51.4 | 28.73 |
| 18       | 47.4   | 27.84   | 48.7   | 29.34   | 52.3 | 23.39 |
| 19       | 47.0   | 29.84   | 50.1   | 29.09   | 52.2 | 25.96 |
| 20       | 47.9   | 28.18   | 49.9   | 28.45   | 48.8 | 29.89 |
| 21       | 48.1   | 29.64   | 51.8   | 19.70   | 51.6 | 28.69 |
| 22       | 49.2   | 28.09   | 52.4   | 19.46   | 49.4 | 29.92 |
| 23       | 47.0   | 29.84   | 50.0   | 28.42   | 51.2 | 28.76 |
| 24       | 48.4   | 28.08   | 51.0   | 28.02   | 51.7 | 28.66 |
| 25       | * 48.2 | * 28.08 | 52.5   | 19.61   | 49.8 | 29.90 |
| 26       | 48.1   | 28.08   | 50.6   | 28.06   | 51.8 | 28.77 |
| 27       | 47.9   | 28.25   | 52.2   | 19.44   | 52.4 | 25.08 |
| 28       | 48.3   | 29.65   | 53.0   | 19.62   | 51.5 | 28.77 |
| 29       | 49.0   | 28.10   | 50.8   | 28.14   | 52.7 | 26.60 |
| 30       | 47.9   | 29.65   | 49.9   | 29.76   | 53.1 | 25.50 |
| 31       | 0      | 0       | 51.2   | 28.01   | 0    | 0     |
| MEANS    | 47.3   | 28.94   | 50.3   | 26.97   | 50.9 | 27.80 |
| OBSVNS.  | 29     | 29      | 30     | 30      | 30   | 30    |
| MAXIMUM  | 49.2   | 29.85   | 53.0   | 29.76   | 53.1 | 30.06 |
| MINIMUM  | 46.0   | 27.55   | 48.6   | 19.44   | 48.8 | 18.79 |
| STD.DEV. | .88    | .85     | 1.19   | 3.48    | 1.16 | 2.60  |

EAST POINT

48 47 05 N

123 02 36 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP   | SAL     | TEMP | SAL   | TEMP | SAL   |
|----------|--------|---------|------|-------|------|-------|
| 1        | 53.3   | 26.51   | 54.6 | 26.04 | 57.6 | 20.74 |
| 2        | 52.0   | 23.73   | 52.8 | 28.99 | 58.2 | 26.52 |
| 3        | 54.2   | 26.47   | 53.7 | 26.47 | 59.7 | 20.57 |
| 4        | 52.1   | 26.43   | 55.8 | 24.73 | 57.6 | 26.55 |
| 5        | 53.2   | 26.64   | 55.2 | 26.40 | 60.4 | 20.66 |
| 6        | 52.9   | 26.14   | 59.3 | 24.77 | 59.9 | 26.38 |
| 7        | 53.4   | 27.83   | 60.8 | 18.53 | 61.1 | 20.65 |
| 8        | 54.0   | 26.60   | 60.0 | 24.07 | 58.4 | 26.55 |
| 9        | 52.3   | 27.84   | 55.2 | 26.86 | 56.1 | 28.02 |
| 10       | 54.1   | 27.83   | 59.9 | 18.57 | 57.3 | 28.00 |
| 11       | 53.8   | 27.83   | 56.8 | 26.33 | * 0  | 28.14 |
| 12       | 53.0   | 28.52   | 57.4 | 26.37 | * 0  | * 0   |
| 13       | 54.1   | 23.50   | 56.3 | 26.41 | * 0  | * 0   |
| 14       | 53.2   | 28.54   | 61.0 | 24.12 | * 0  | * 0   |
| 15       | 54.8   | 26.02   | 59.1 | 18.15 | * 0  | * 0   |
| 16       | 54.4   | 28.52   | 59.6 | 24.51 | * 0  | * 0   |
| 17       | 53.8   | 25.04   | 61.3 | 18.43 | * 0  | * 0   |
| 18       | 55.0   | 25.42   | 59.1 | 26.34 | * 0  | * 0   |
| 19       | 53.5   | 23.73   | 59.5 | 24.39 | 55.5 | 28.15 |
| 20       | 54.3   | 25.74   | 57.8 | 26.36 | 54.9 | 23.25 |
| 21       | 54.3   | 23.09   | 59.9 | 23.96 | 53.2 | 28.21 |
| 22       | 52.7   | 25.41   | 57.9 | 28.86 | 54.7 | 21.76 |
| 23       | 51.2   | 29.36   | 58.8 | 28.81 | 54.7 | 28.11 |
| 24       | 54.0   | 25.31   | 57.0 | 26.34 | 55.1 | 21.62 |
| 25       | * 54.6 | * 25.33 | 59.8 | 28.86 | 53.8 | 28.35 |
| 26       | 55.1   | 25.35   | 59.6 | 20.61 | 56.3 | 21.77 |
| 27       | 52.4   | 29.77   | 58.2 | 28.86 | 54.4 | 21.67 |
| 28       | 53.7   | 26.05   | 59.2 | 21.44 | 54.8 | 21.61 |
| 29       | 52.8   | 29.63   | 60.3 | 28.81 | 56.5 | 21.94 |
| 30       | 55.0   | 26.33   | 56.6 | 26.55 | 56.9 | 21.64 |
| 31       | 53.5   | 29.67   | 55.4 | 28.87 | 0    | 0     |
| MEANS    | 53.5   | 26.63   | 58.0 | 25.12 | 56.7 | 24.39 |
| OBSVNS.  | 30     | 30      | 31   | 31    | 22   | 23    |
| MAXIMUM  | 55.1   | 29.77   | 61.3 | 28.99 | 61.1 | 28.35 |
| MINIMUM  | 51.2   | 23.09   | 52.8 | 18.15 | 53.2 | 20.57 |
| STD.DEV. | .96    | 1.88    | 2.26 | 3.34  | 2.23 | 3.19  |

EAST POINT

48 47 05 N

123 02 36 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP   | SAL     | TEMP   | SAL     | TEMP   | SAL     |
|-------------|--------|---------|--------|---------|--------|---------|
| 1           | 56.1   | 27.18   | 47.7   | 27.16   | * 0    | * 0     |
| 2           | 53.5   | 24.86   | 48.3   | 21.43   | * 0    | * 0     |
| 3           | 54.6   | 26.33   | 48.0   | 27.16   | * 0    | * 0     |
| 4           | 53.1   | 24.74   | 48.1   | 30.34   | * 0    | * 0     |
| 5           | 53.5   | 26.41   | 48.1   | 27.33   | 44.5   | 25.01   |
| 6           | 53.8   | 24.94   | 48.5   | 26.18   | * 44.3 | * 25.13 |
| 7           | 54.8   | 27.34   | 48.6   | 29.35   | * 44.0 | * 25.26 |
| 8           | 53.3   | 25.04   | 48.1   | 26.16   | 43.8   | 25.38   |
| 9           | 53.0   | 24.99   | 47.7   | 30.34   | 44.7   | 29.36   |
| 10          | * 52.8 | * 25.17 | 47.5   | 27.16   | 45.2   | 29.38   |
| 11          | 52.6   | 25.35   | 47.1   | 27.22   | * 45.6 | * 29.15 |
| 12          | 52.2   | 30.24   | 47.9   | 30.34   | 45.9   | 28.91   |
| 13          | 51.3   | 29.86   | 47.6   | 29.50   | 45.6   | 29.39   |
| 14          | 51.9   | 30.18   | 48.2   | 30.33   | 46.7   | 28.90   |
| 15          | 52.0   | 29.85   | 47.9   | 29.85   | 45.8   | 29.30   |
| 16          | 51.7   | 30.17   | 46.2   | 28.15   | 47.2   | 29.39   |
| 17          | 50.8   | 28.90   | 48.0   | 29.26   | 46.8   | 29.26   |
| 18          | 50.6   | 29.91   | 46.7   | 26.24   | * 47.0 | * 29.32 |
| 19          | 50.1   | 30.23   | 46.8   | 29.34   | 47.1   | 29.37   |
| 20          | * 50.2 | * 30.23 | 47.8   | 26.15   | 47.3   | 29.34   |
| 21          | * 50.4 | * 30.23 | 46.0   | * 27.29 | 46.4   | 28.89   |
| 22          | 50.6   | 30.23   | 46.8   | 28.43   | 46.8   | * 0     |
| 23          | * 50.2 | * 30.24 | 48.2   | 27.25   | * 46.8 | * 0     |
| 24          | 49.8   | 30.24   | 47.1   | 25.06   | * 46.9 | * 0     |
| 25          | 50.2   | 29.14   | * 46.1 | * 25.87 | 46.9   | 28.95   |
| 26          | 50.1   | 29.88   | 45.1   | 26.68   | 46.2   | 26.27   |
| 27          | 50.5   | 28.88   | * 46.0 | * 28.13 | 46.8   | 28.94   |
| 28          | 50.5   | 21.42   | 47.0   | 29.39   | 46.1   | 26.28   |
| 29          | 49.8   | 21.17   | * 0    | * 0     | 46.8   | 29.09   |
| 30          | 50.1   | 21.17   | * 0    | * 0     | 46.6   | 26.32   |
| 31          | 48.3   | 27.16   | 0      | 0       | * 46.2 | * 26.34 |
| MEANS       | 51.8   | 27.25   | 47.5   | 27.83   | 46.2   | 28.30   |
| OBSVNS.     | 27     | 27      | 26     | 25      | 20     | 19      |
| YRLY. MEANS |        |         |        |         | 49.9   | 27.58   |
| MAXIMUM     | 56.1   | 30.24   | 48.6   | 30.34   | 47.3   | 29.39   |
| MINIMUM     | 48.3   | 21.17   | 45.1   | 21.43   | 43.8   | 25.01   |
| STD. DEV.   | 1.86   | 2.97    | .84    | 2.09    | .97    | 1.54    |

NEW WESTMINSTER

49 11 54 N

122 56 34 W

JANUARY

FEBRUARY

MARCH

1966

| DATE     | TEMP | SAL | TEMP | SAL | TEMP | SAL |
|----------|------|-----|------|-----|------|-----|
| 1        | * 0  | * 0 | 37.0 | * 0 | * 0  | * 0 |
| 2        | * 0  | * 0 | 38.1 | * 0 | * 0  | * 0 |
| 3        | * 0  | * 0 | 38.1 | * 0 | * 0  | * 0 |
| 4        | 33.0 | * 0 | 38.8 | * 0 | * 0  | * 0 |
| 5        | 33.0 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 6        | 33.5 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 7        | 34.5 | * 0 | 38.0 | * 0 | * 0  | * 0 |
| 8        | * 0  | * 0 | 38.3 | * 0 | * 0  | * 0 |
| 9        | * 0  | * 0 | 38.7 | * 0 | * 0  | * 0 |
| 10       | 36.1 | * 0 | 39.0 | * 0 | * 0  | * 0 |
| 11       | 37.9 | * 0 | 39.0 | * 0 | * 0  | * 0 |
| 12       | 37.5 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 13       | 38.5 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 14       | 38.5 | * 0 | 37.8 | * 0 | * 0  | * 0 |
| 15       | * 0  | * 0 | 37.2 | * 0 | * 0  | * 0 |
| 16       | * 0  | * 0 | 37.5 | * 0 | * 0  | * 0 |
| 17       | 38.1 | * 0 | 38.5 | * 0 | * 0  | * 0 |
| 18       | 37.9 | * 0 | 37.7 | * 0 | * 0  | * 0 |
| 19       | 37.7 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 20       | 37.9 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 21       | 37.3 | * 0 | 38.5 | * 0 | * 0  | * 0 |
| 22       | * 0  | * 0 | 39.4 | * 0 | * 0  | * 0 |
| 23       | * 0  | * 0 | 39.9 | * 0 | * 0  | * 0 |
| 24       | 36.0 | * 0 | 39.4 | * 0 | * 0  | * 0 |
| 25       | 36.5 | * 0 | 40.0 | * 0 | * 0  | * 0 |
| 26       | 35.9 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 27       | 35.5 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 28       | 36.1 | * 0 | 39.5 | * 0 | * 0  | * 0 |
| 29       | * 0  | * 0 | 0    | 0   | * 0  | * 0 |
| 30       | * 0  | * 0 | 0    | 0   | * 0  | * 0 |
| 31       | 37.5 | * 0 | 0    | 0   | * 0  | * 0 |
| MEANS    | 36.4 | 0   | 38.5 | 0   | 0    | 0   |
| OBSVNS.  | 20   | 0   | 20   | 0   | 0    | 0   |
| MAXIMUM  | 38.5 | 0   | 40.0 | 0   | 0    | 0   |
| MINIMUM  | 33.0 | 0   | 37.0 | 0   | 0    | 0   |
| STD.DEV. | 1.78 | 0   | .86  | 0   | 0    | 0   |



NEW WESTMINSTER

49 11 54 N

122 56 34 W

APRIL

MAY

JUNE

1966

| DATE     | TEMP | SAL | TEMP | SAL | TEMP | SAL |
|----------|------|-----|------|-----|------|-----|
| 1        | 44.4 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 2        | * 0  | * 0 | 46.1 | * 0 | * 0  | * 0 |
| 3        | * 0  | * 0 | 48.0 | * 0 | * 0  | * 0 |
| 4        | 43.3 | * 0 | 49.1 | * 0 | * 0  | * 0 |
| 5        | 43.0 | * 0 | 50.5 | * 0 | * 0  | * 0 |
| 6        | 42.8 | * 0 | 51.2 | * 0 | * 0  | * 0 |
| 7        | 42.6 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 8        | * 0  | * 0 | * 0  | * 0 | * 0  | * 0 |
| 9        | * 0  | * 0 | 51.0 | * 0 | * 0  | * 0 |
| 10       | * 0  | * 0 | 51.5 | * 0 | * 0  | * 0 |
| 11       | 42.3 | * 0 | 51.1 | * 0 | * 0  | * 0 |
| 12       | 42.3 | * 0 | 51.1 | * 0 | * 0  | * 0 |
| 13       | 41.5 | * 0 | 48.5 | * 0 | * 0  | * 0 |
| 14       | 40.9 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 15       | 40.5 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 16       | * 0  | * 0 | 48.0 | * 0 | * 0  | * 0 |
| 17       | * 0  | * 0 | 48.1 | * 0 | * 0  | * 0 |
| 18       | 44.0 | * 0 | 48.7 | * 0 | * 0  | * 0 |
| 19       | 44.5 | * 0 | 49.0 | * 0 | * 0  | * 0 |
| 20       | 45.1 | * 0 | 49.5 | * 0 | * 0  | * 0 |
| 21       | 44.8 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 22       | 44.4 | * 0 | * 0  | * 0 | * 0  | * 0 |
| 23       | * 0  | * 0 | * 0  | * 0 | * 0  | * 0 |
| 24       | * 0  | * 0 | 49.0 | * 0 | * 0  | * 0 |
| 25       | 45.8 | * 0 | 49.5 | * 0 | * 0  | * 0 |
| 26       | 46.0 | * 0 | 50.5 | * 0 | * 0  | * 0 |
| 27       | 46.3 | * 0 | 50.5 | * 0 | * 0  | * 0 |
| 28       | 46.3 | * 0 | 50.3 | * 0 | * 0  | * 0 |
| 29       | 46.5 | * 0 | 50.2 | * 0 | * 0  | * 0 |
| 30       | * 0  | * 0 | 51.5 | * 0 | * 0  | * 0 |
| 31       | 0    | 0   | 51.5 | * 0 | 0    | 0   |
| MEANS    | 43.9 | 0   | 49.8 | 0   | 0    | 0   |
| OBSVNS.  | 20   | 0   | 23   | 0   | 0    | 0   |
| MAXIMUM  | 46.5 | 0   | 51.5 | 0   | 0    | 0   |
| MINIMUM  | 40.5 | 0   | 46.1 | 0   | 0    | 0   |
| STD.DEV. | 1.85 | 0   | 1.43 | 0   | 0    | 0   |

NEW WESTMINSTER

49 11 54 N

122 56 34 W

JULY

AUGUST

SEPTEMBER 1966

| DATE     | TEMP | SAL |   | TEMP | SAL  |   | TEMP | SAL |   |
|----------|------|-----|---|------|------|---|------|-----|---|
| 1        | 55.2 | #   | 0 | #    | 0    | # | 62.0 | #   | 0 |
| 2        | 55.2 | #   | 0 | #    | 0    | # | 63.0 | #   | 0 |
| 3        | 55.0 | #   | 0 | #    | 0    | # | 62.0 | #   | 0 |
| 4        | 55.1 | #   | 0 | #    | 0    | # | 62.0 | #   | 0 |
| 5        | 55.0 | #   | 0 | #    | 0    | # | 0    | #   | 0 |
| 6        | 56.3 | #   | 0 | #    | 0    | # | 62.0 | #   | 0 |
| 7        | 57.7 | #   | 0 | #    | 0    | # | 61.7 | #   | 0 |
| 8        | 58.5 | #   | 0 | #    | 0    | # | 61.0 | #   | 0 |
| 9        | 58.8 | #   | 0 | #    | 0    | # | 61.2 | #   | 0 |
| 10       | 60.0 | #   | 0 | #    | 0    | # | 62.0 | #   | 0 |
| 11       | 58.9 | #   | 0 | #    | 0    | # | 61.0 | #   | 0 |
| 12       | 58.9 | #   | 0 | #    | 0    | # | 60.0 | #   | 0 |
| 13       | 59.5 | #   | 0 | #    | 0    | # | 59.5 | #   | 0 |
| 14       | 59.4 | #   | 0 | #    | 0    | # | 59.5 | #   | 0 |
| 15       | 58.1 | #   | 0 |      | 62.5 | # | 60.2 | #   | 0 |
| 16       | 59.0 | #   | 0 |      | 62.5 | # | 59.5 | #   | 0 |
| 17       | 58.0 | #   | 0 |      | 61.5 | # | 59.4 | #   | 0 |
| 18       | 59.8 | #   | 0 |      | 61.8 | # | 59.5 | #   | 0 |
| 19       | 60.7 | #   | 0 |      | 61.5 | # | 59.1 | #   | 0 |
| 20       | 61.0 | #   | 0 |      | 60.4 | # | 59.5 | #   | 0 |
| 21       | 60.0 | #   | 0 |      | 60.7 | # | 60.0 | #   | 0 |
| 22       | 60.0 | #   | 0 |      | 61.2 | # | 60.5 | #   | 0 |
| 23       | 60.0 | #   | 0 |      | 61.0 | # | 61.5 | #   | 0 |
| 24       | 60.0 | #   | 0 |      | 63.0 | # | 60.1 | #   | 0 |
| 25       | 59.0 | #   | 0 |      | 63.0 | # | 59.5 | #   | 0 |
| 26       | 58.0 | #   | 0 |      | 63.2 | # | 59.5 | #   | 0 |
| 27       | 59.0 | #   | 0 |      | 60.5 | # | 59.9 | #   | 0 |
| 28       | 60.0 | #   | 0 |      | 61.4 | # | 59.9 | #   | 0 |
| 29       | 60.0 | #   | 0 |      | 62.5 | # | 60.6 | #   | 0 |
| 30       | 60.4 | #   | 0 |      | 62.5 | # | 61.0 | #   | 0 |
| 31       | 60.3 | #   | 0 |      | 62.0 | # | 0    |     | 0 |
| MEANS    | 58.6 |     | 0 |      | 61.8 |   | 60.6 |     | 0 |
| OBSVNS.  | 31   |     | 0 |      | 17   |   | 29   |     | 0 |
| MAXIMUM  | 61.0 |     | 0 |      | 63.2 |   | 63.0 |     | 0 |
| MINIMUM  | 55.0 |     | 0 |      | 60.4 |   | 59.1 |     | 0 |
| STD.DEV. | 1.84 |     | 0 |      | .90  |   | 1.08 |     | 0 |

NEW WESTMINSTER 49 11 54 N 122 56 34 W

OCTOBER

NOVEMBER

DECEMBER 1966

| DATE        | TEMP | SAL | TEMP | SAL | TEMP | SAL |
|-------------|------|-----|------|-----|------|-----|
| 1           | 62.2 | * 0 | 47.1 | * 0 | 42.5 | * 0 |
| 2           | 55.8 | * 0 | 47.2 | * 0 | 43.0 | * 0 |
| 3           | 57.3 | * 0 | 46.8 | * 0 | 42.8 | * 0 |
| 4           | 61.0 | * 0 | 47.5 | * 0 | 43.0 | * 0 |
| 5           | 56.5 | * 0 | 45.8 | * 0 | 42.0 | * 0 |
| 6           | 56.5 | * 0 | 45.3 | * 0 | 42.5 | * 0 |
| 7           | 55.0 | * 0 | 45.5 | * 0 | 41.8 | * 0 |
| 8           | 55.0 | * 0 | 45.5 | * 0 | 41.3 | * 0 |
| 9           | 50.9 | * 0 | 44.6 | * 0 | 40.5 | * 0 |
| 10          | 50.8 | * 0 | 43.5 | * 0 | 40.1 | * 0 |
| 11          | 54.0 | * 0 | 43.4 | * 0 | 40.2 | * 0 |
| 12          | 53.5 | * 0 | 43.6 | * 0 | 40.1 | * 0 |
| 13          | 52.5 | * 0 | 43.5 | * 0 | 42.5 | * 0 |
| 14          | 51.5 | * 0 | 41.4 | * 0 | 44.0 | * 0 |
| 15          | 50.2 | * 0 | 43.5 | * 0 | 44.0 | * 0 |
| 16          | 50.2 | * 0 | 43.0 | * 0 | 44.0 | * 0 |
| 17          | 49.5 | * 0 | 43.5 | * 0 | 44.0 | * 0 |
| 18          | 49.9 | * 0 | 43.2 | * 0 | 44.0 | * 0 |
| 19          | 49.5 | * 0 | 43.5 | * 0 | 44.0 | * 0 |
| 20          | 48.8 | * 0 | 43.6 | * 0 | 43.5 | * 0 |
| 21          | 48.5 | * 0 | 43.8 | * 0 | 43.0 | * 0 |
| 22          | 45.7 | * 0 | 43.5 | * 0 | 41.0 | * 0 |
| 23          | 45.8 | * 0 | 43.1 | * 0 | 40.4 | * 0 |
| 24          | 49.0 | * 0 | 42.9 | * 0 | 43.0 | * 0 |
| 25          | 48.9 | * 0 | 43.5 | * 0 | 43.5 | * 0 |
| 26          | 48.8 | * 0 | 43.9 | * 0 | 43.0 | * 0 |
| 27          | 49.9 | * 0 | 43.8 | * 0 | 43.1 | * 0 |
| 28          | 49.8 | * 0 | 43.1 | * 0 | 40.5 | * 0 |
| 29          | 49.9 | * 0 | 44.0 | * 0 | 39.2 | * 0 |
| 30          | 49.8 | * 0 | 42.5 | * 0 | 40.5 | * 0 |
| 31          | 47.5 | * 0 | 0    | 0   | 40.4 | * 0 |
| MEANS       | 51.7 | 0   | 44.2 | 0   | 42.2 | 0   |
| OBSVNS.     | 31   | 0   | 30   | 0   | 31   | 0   |
| YRLY. MEANS |      |     |      |     | 49.1 | 0   |
| MAXIMUM     | 62.2 | 0   | 47.5 | 0   | 44.0 | 0   |
| MINIMUM     | 45.7 | 0   | 41.4 | 0   | 39.2 | 0   |
| STD. DEV.   | 4.02 | 0   | 1.50 | 0   | 1.49 | 0   |



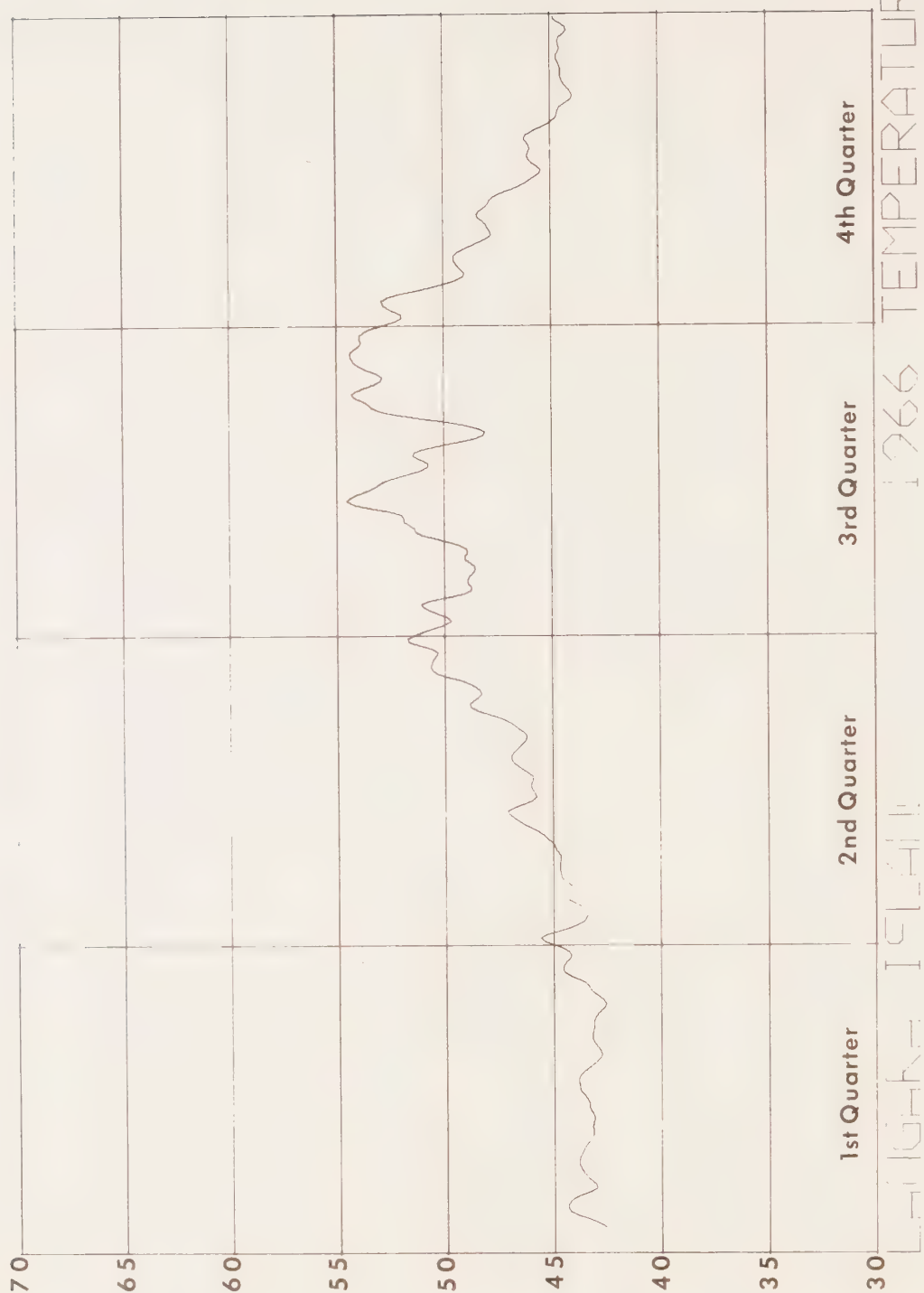
Annual Graph Plots of the 7-day  
Normally-Weighted Running Means

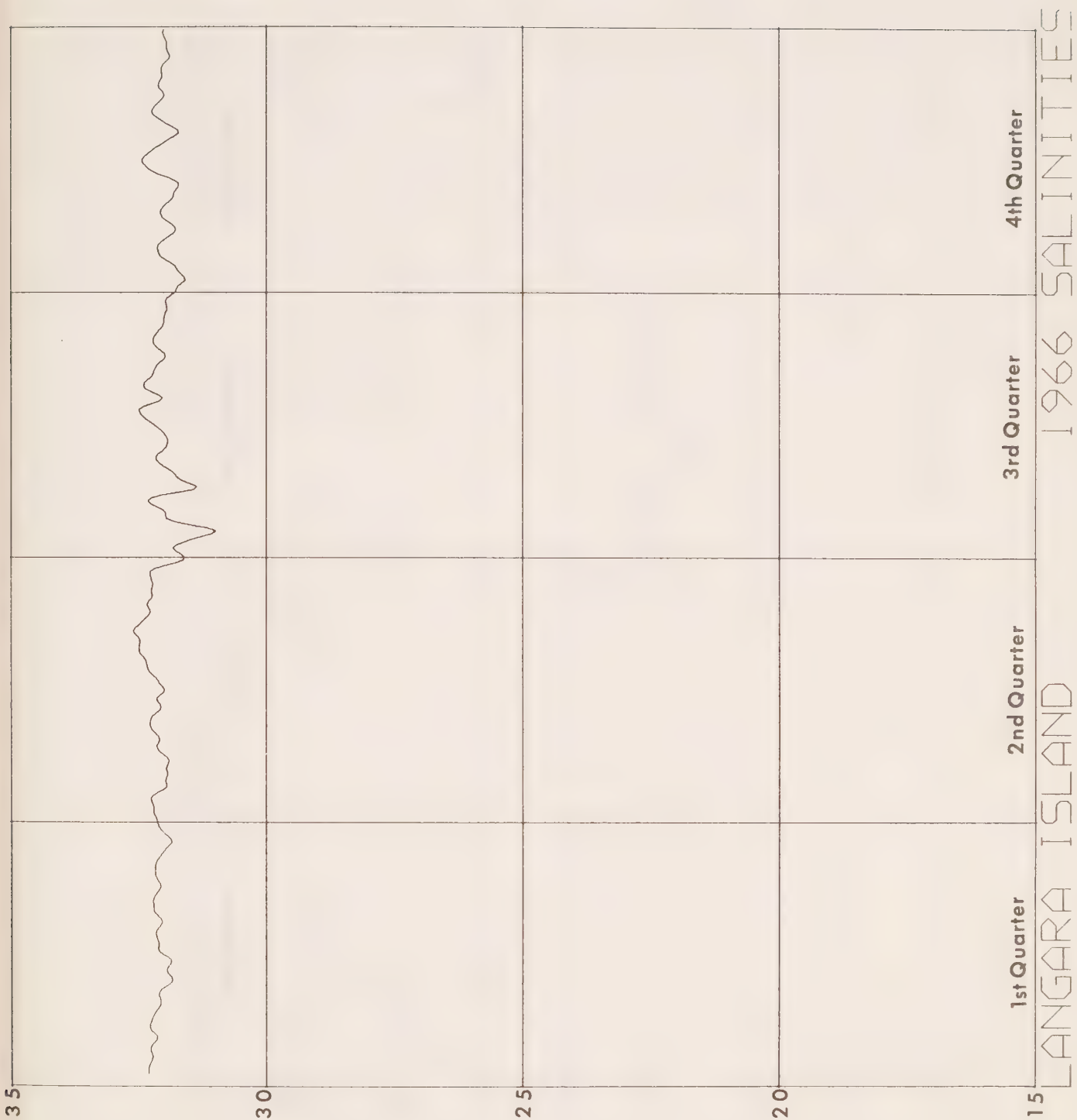
1966

Temp: Temperature °F

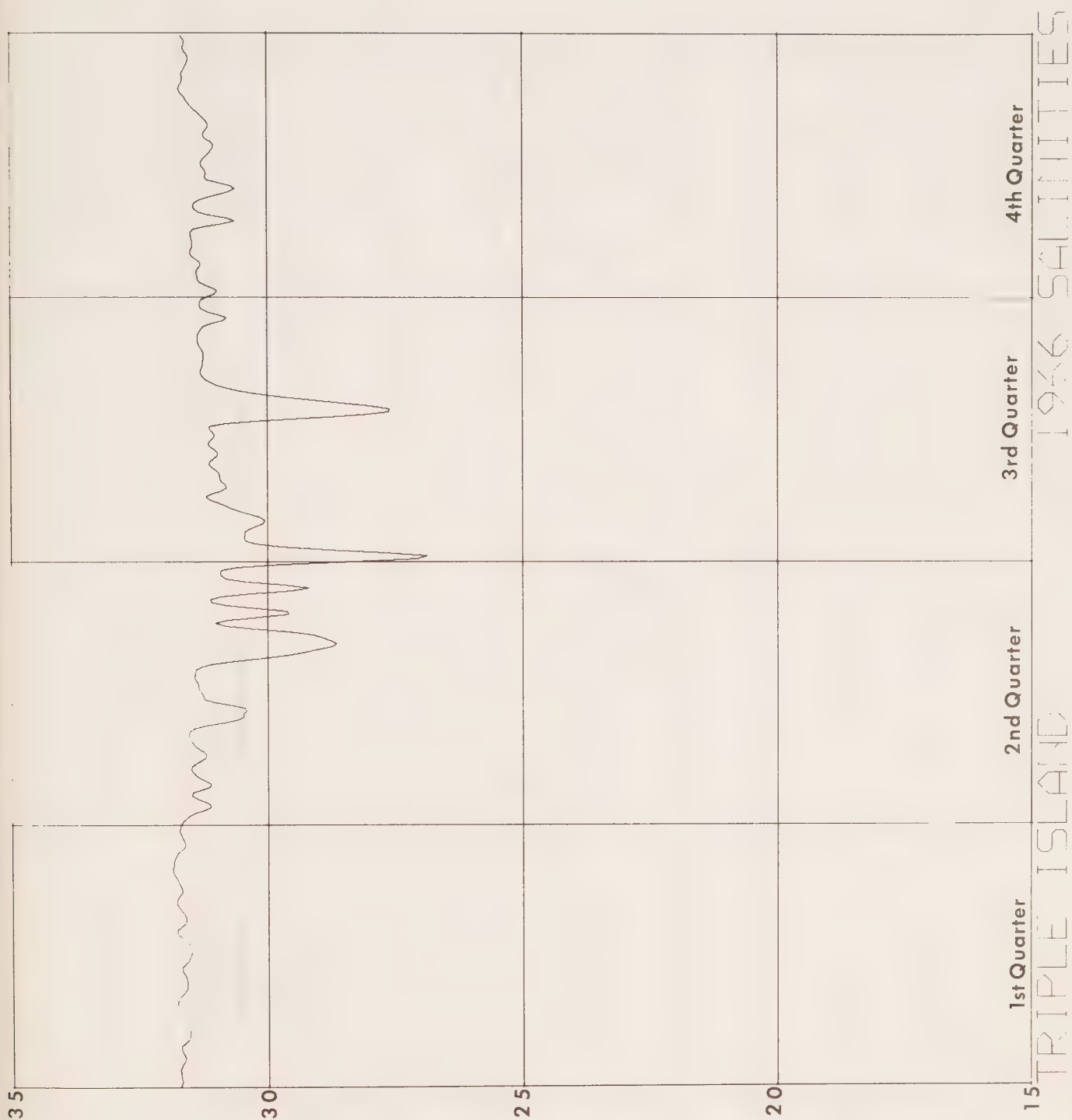
Sal : Salinity ‰



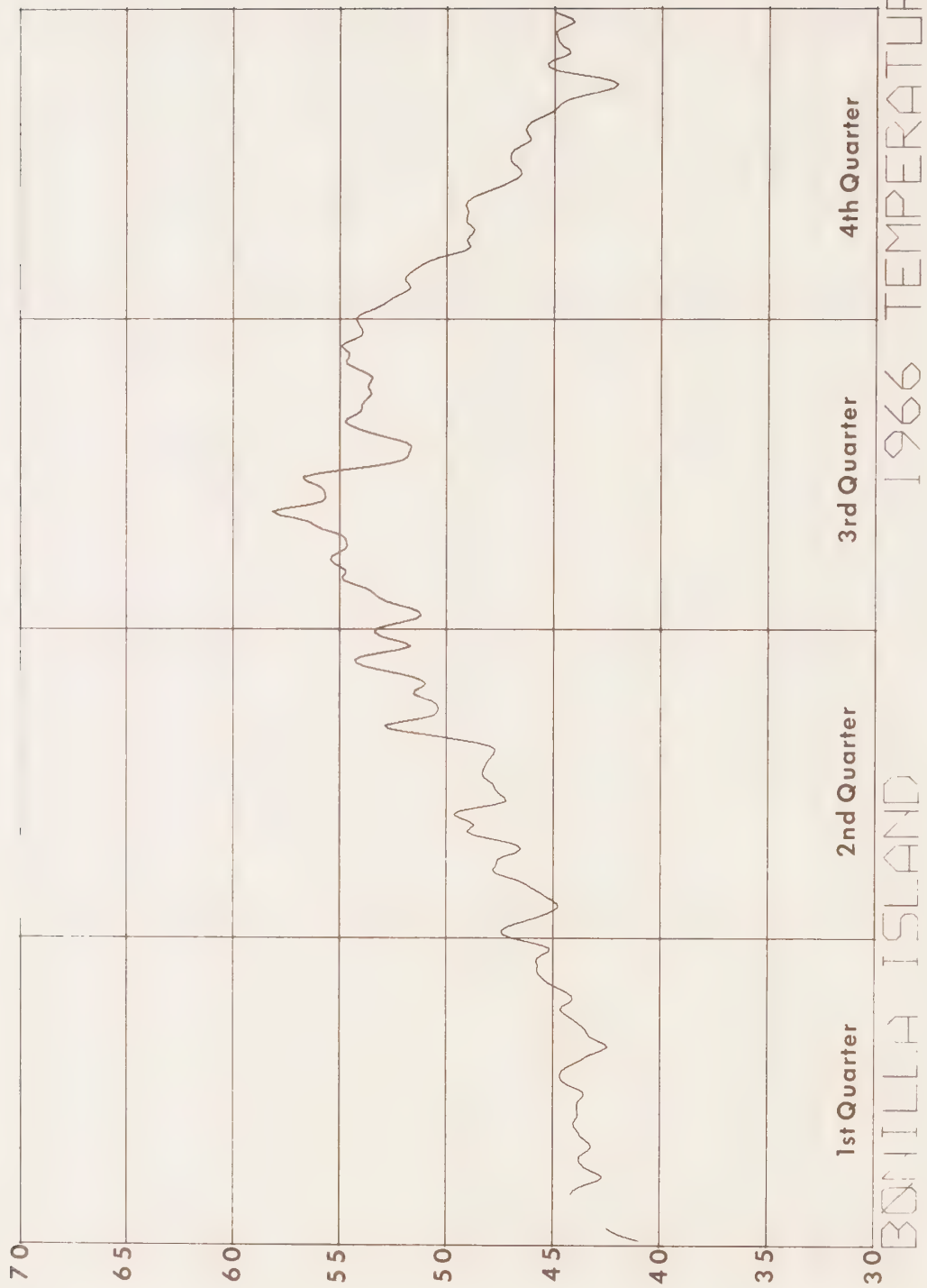




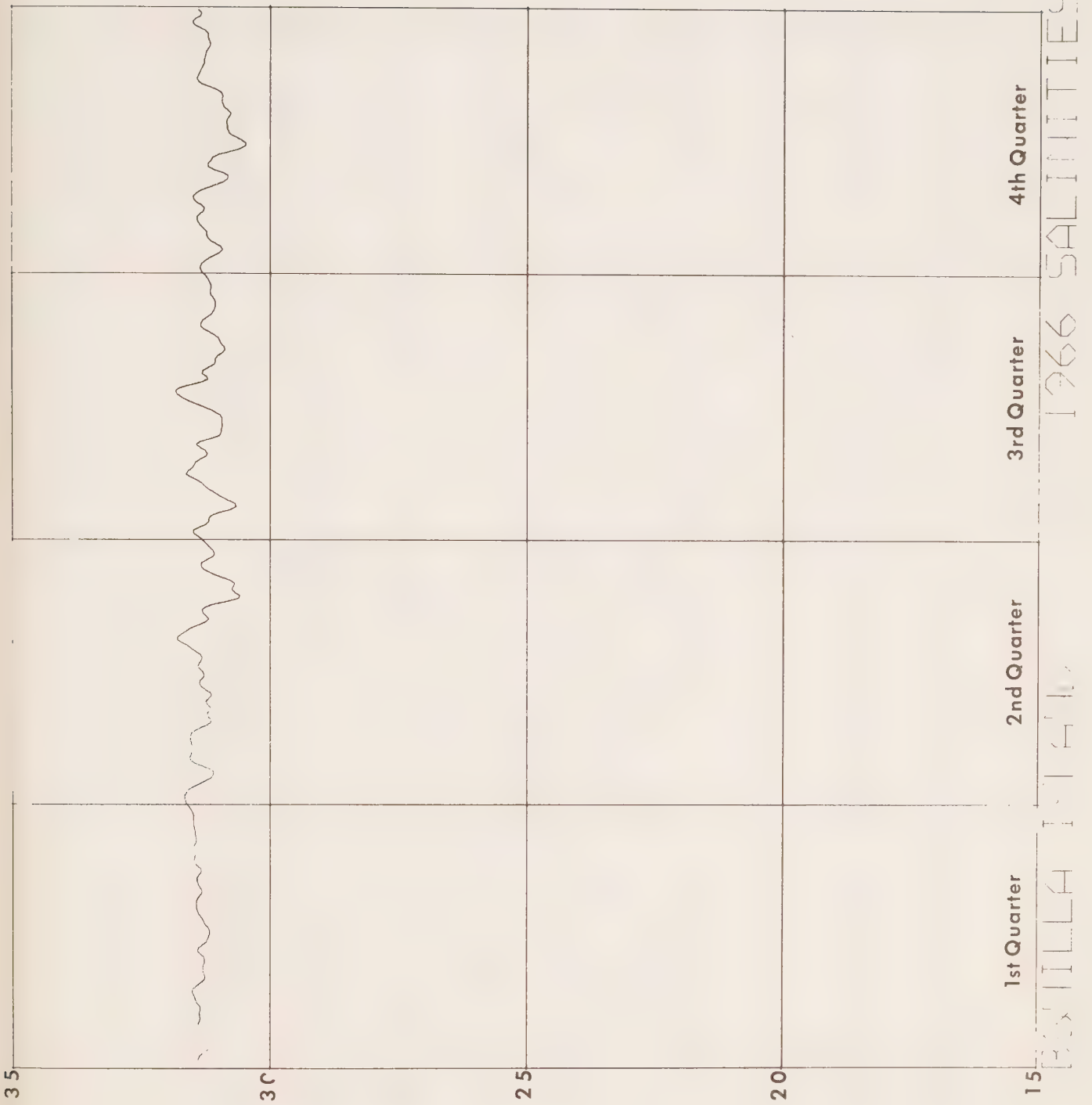




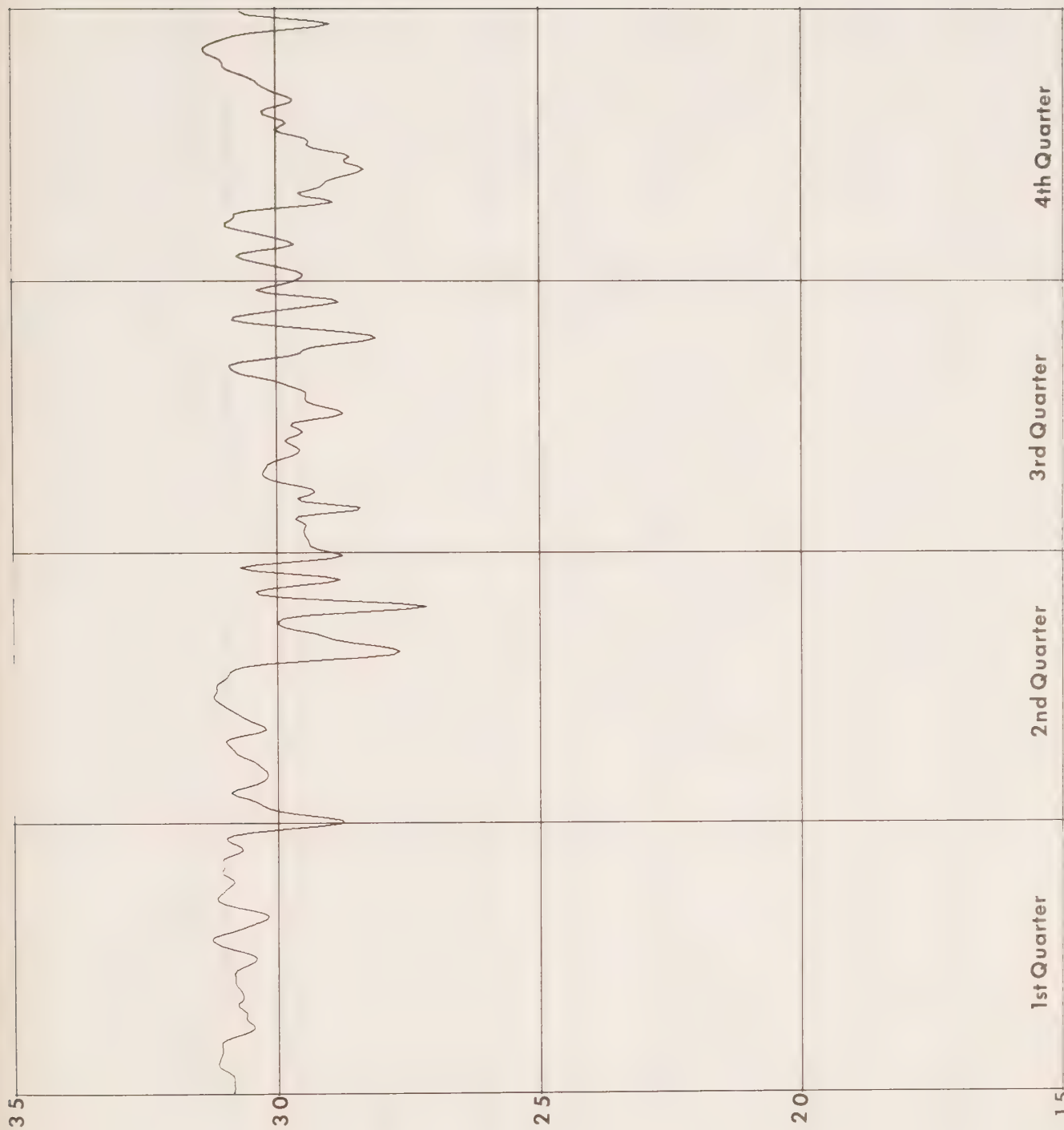
TRIPLE ISLAND 1946 SALINITIES



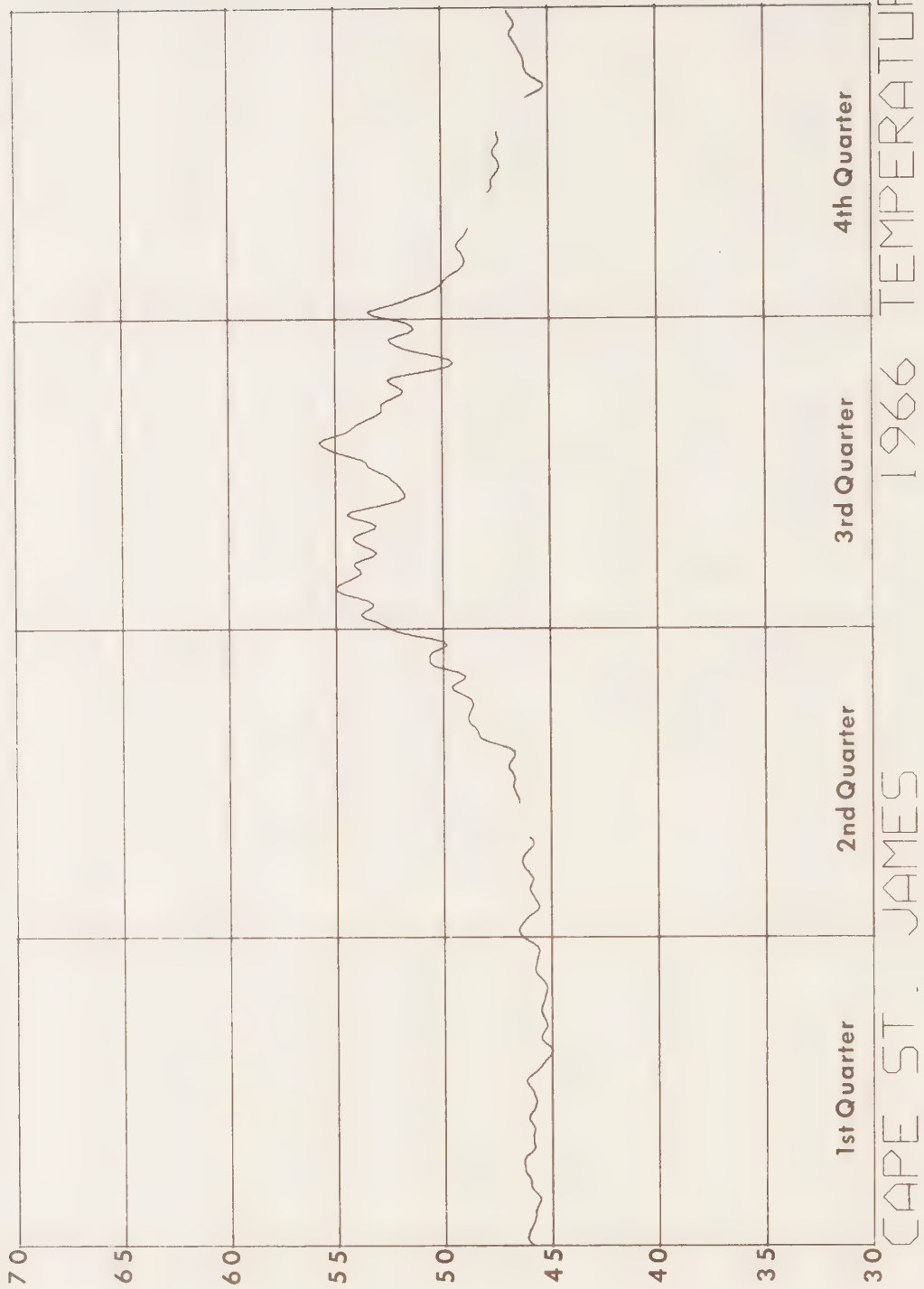


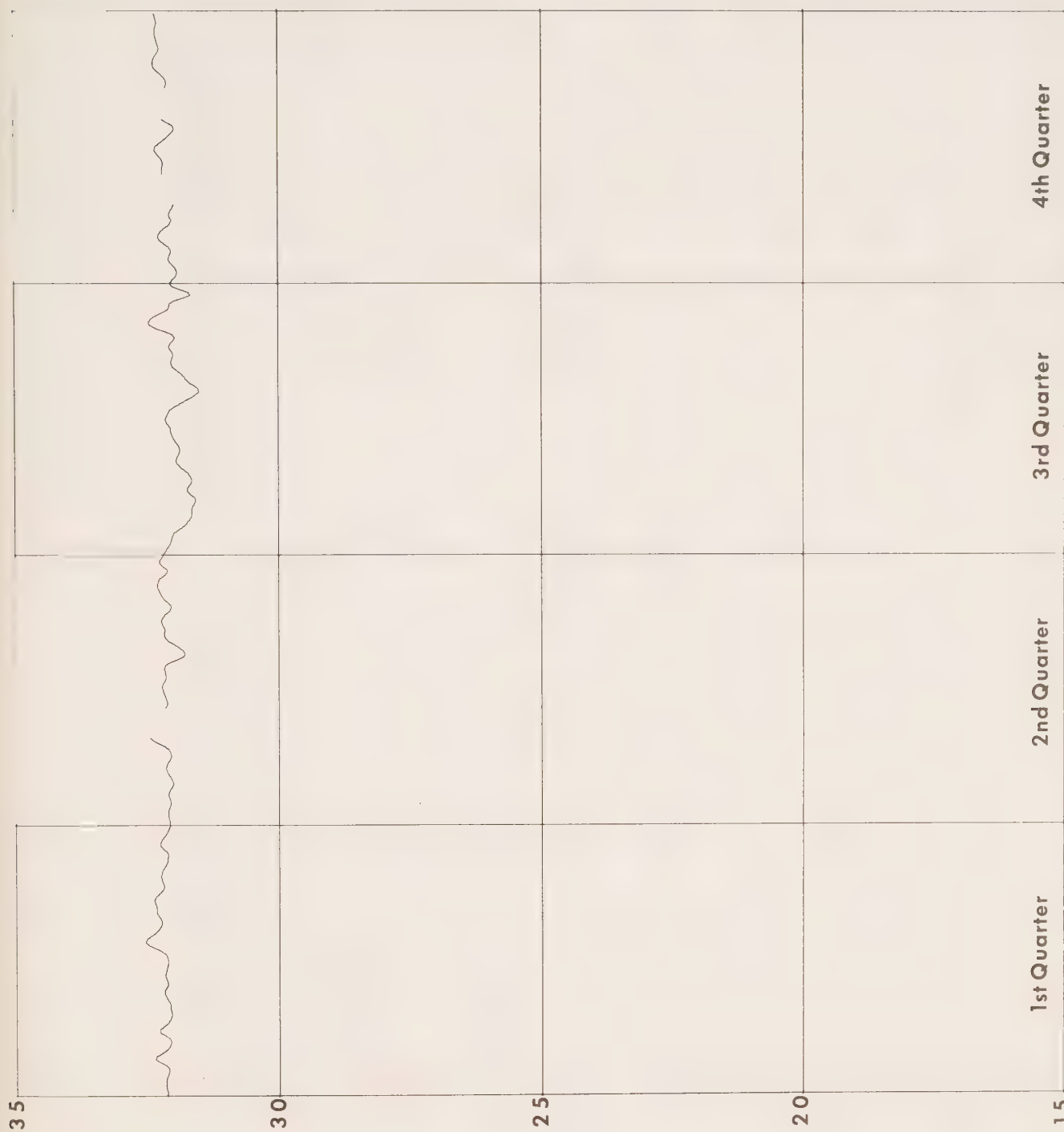






MCINNIS ISLAND 1966 SHLITIES

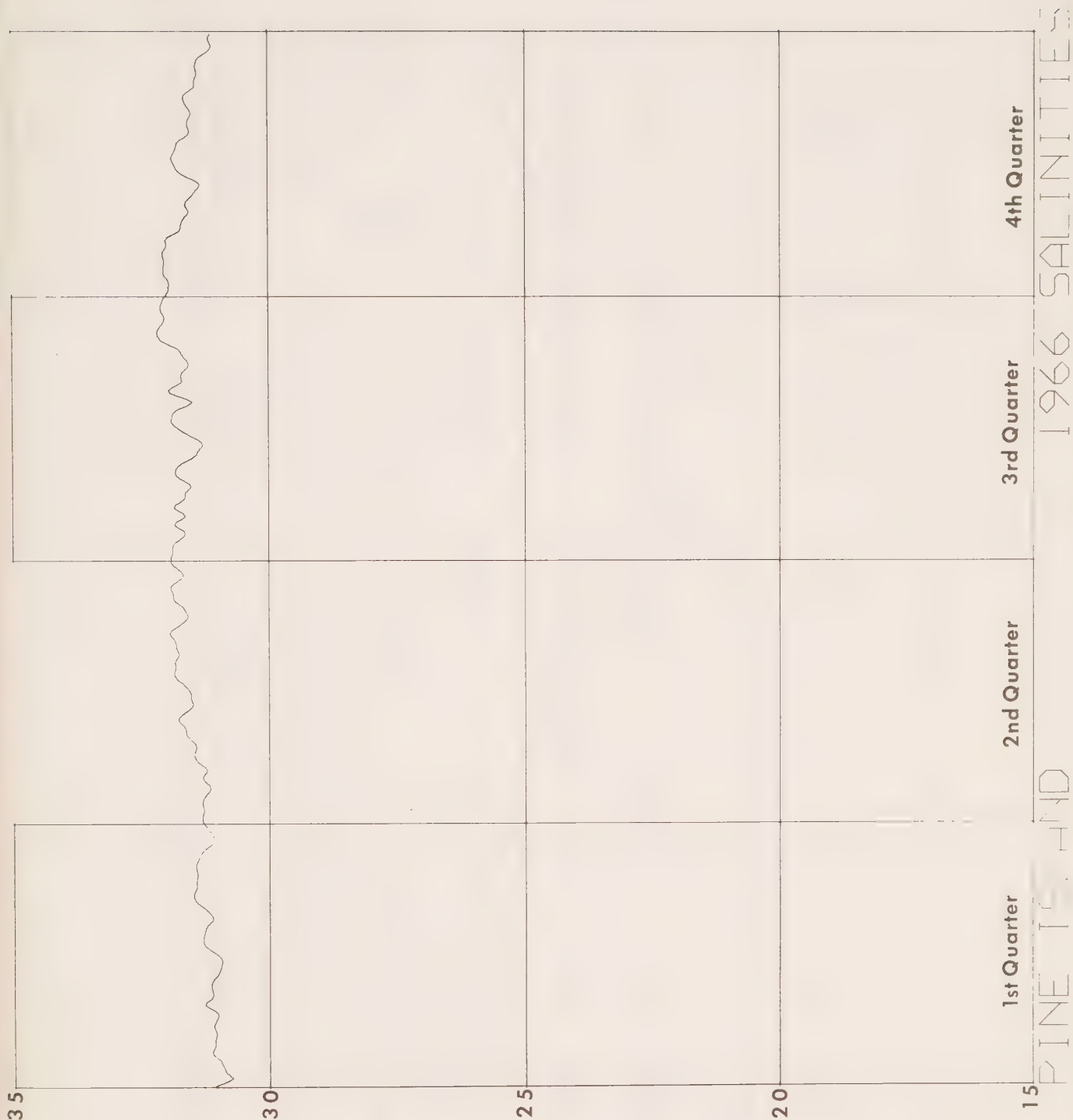




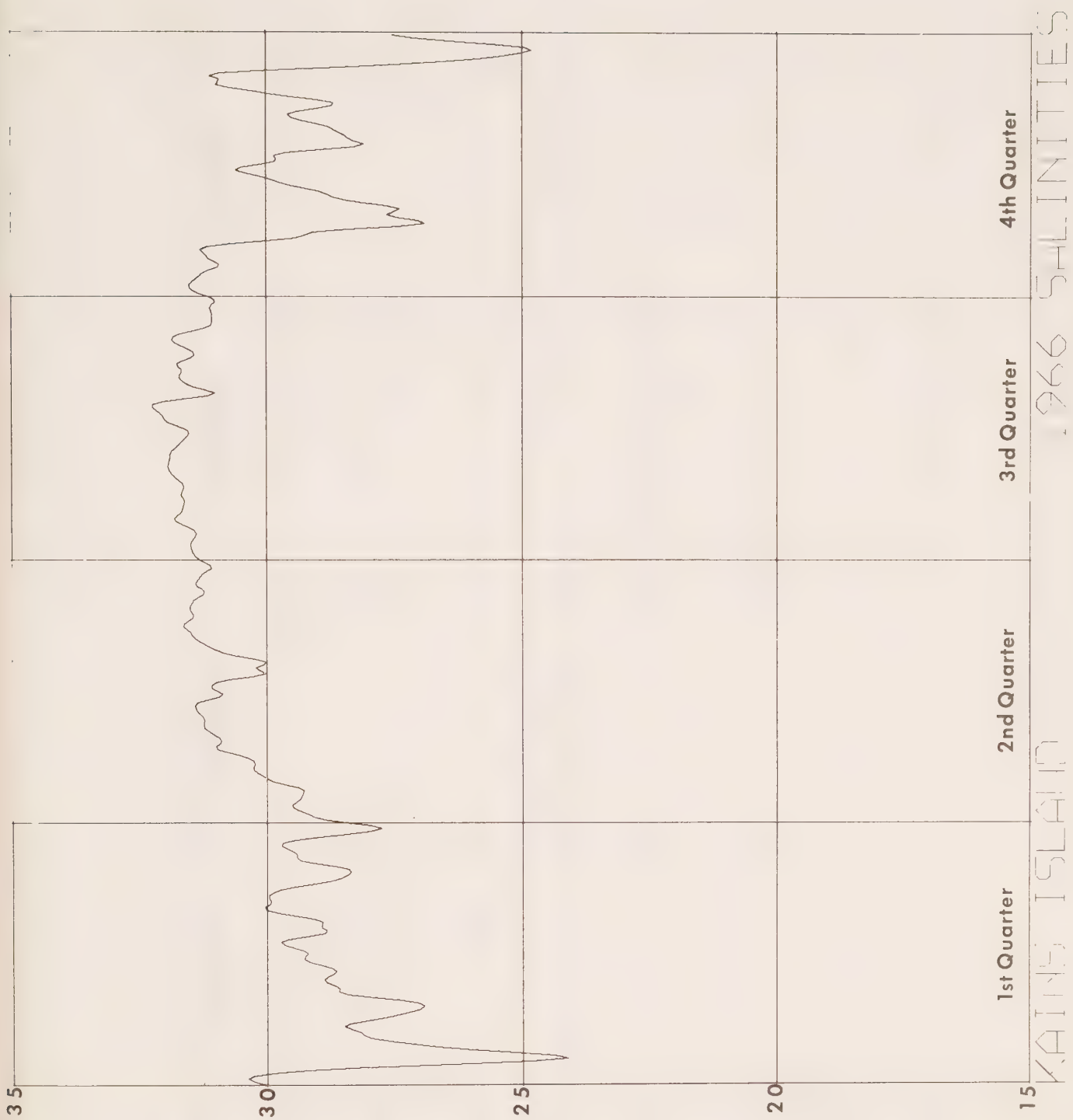
CAPE ST. JAMES 1966 SALINITIES

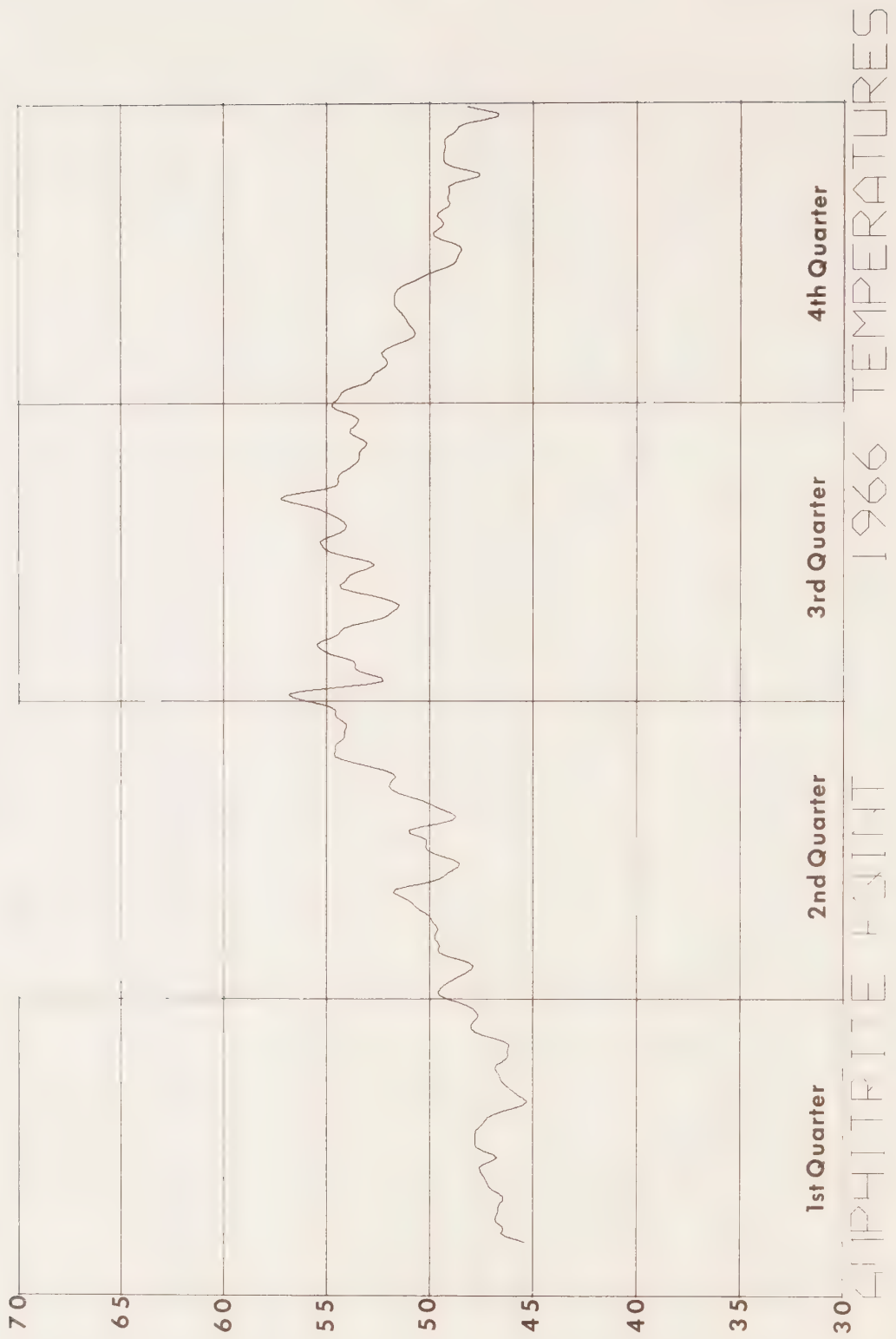




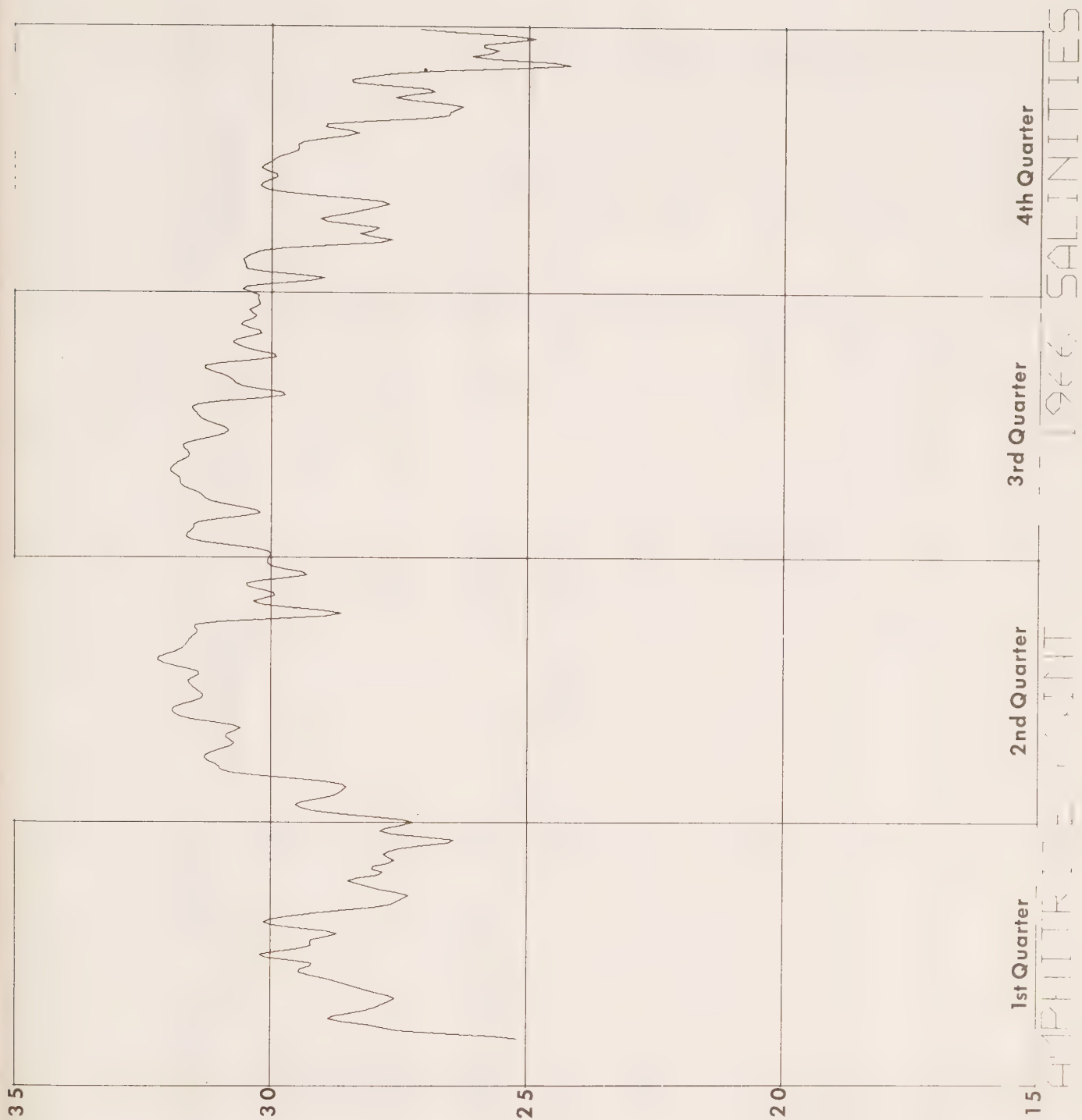


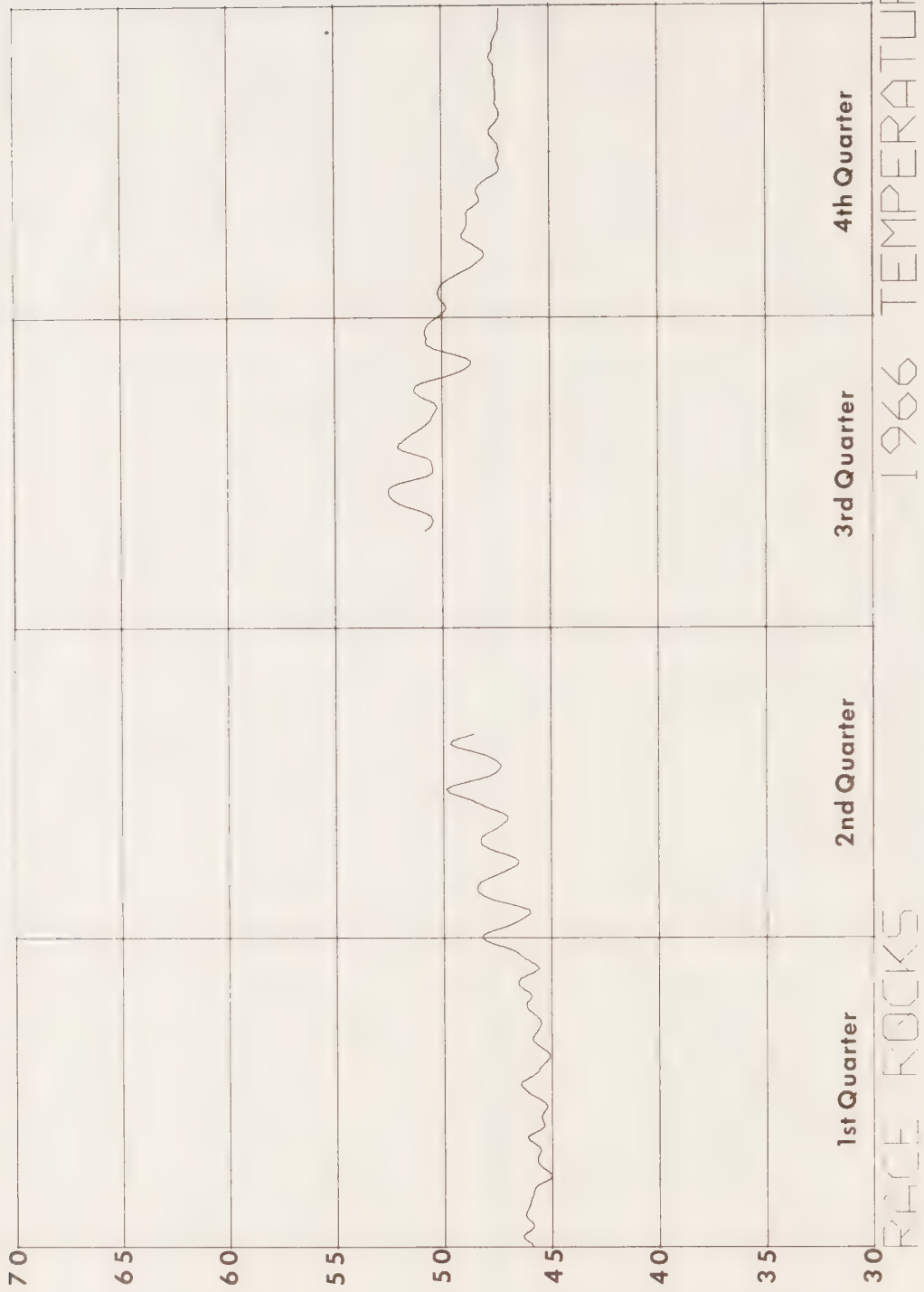


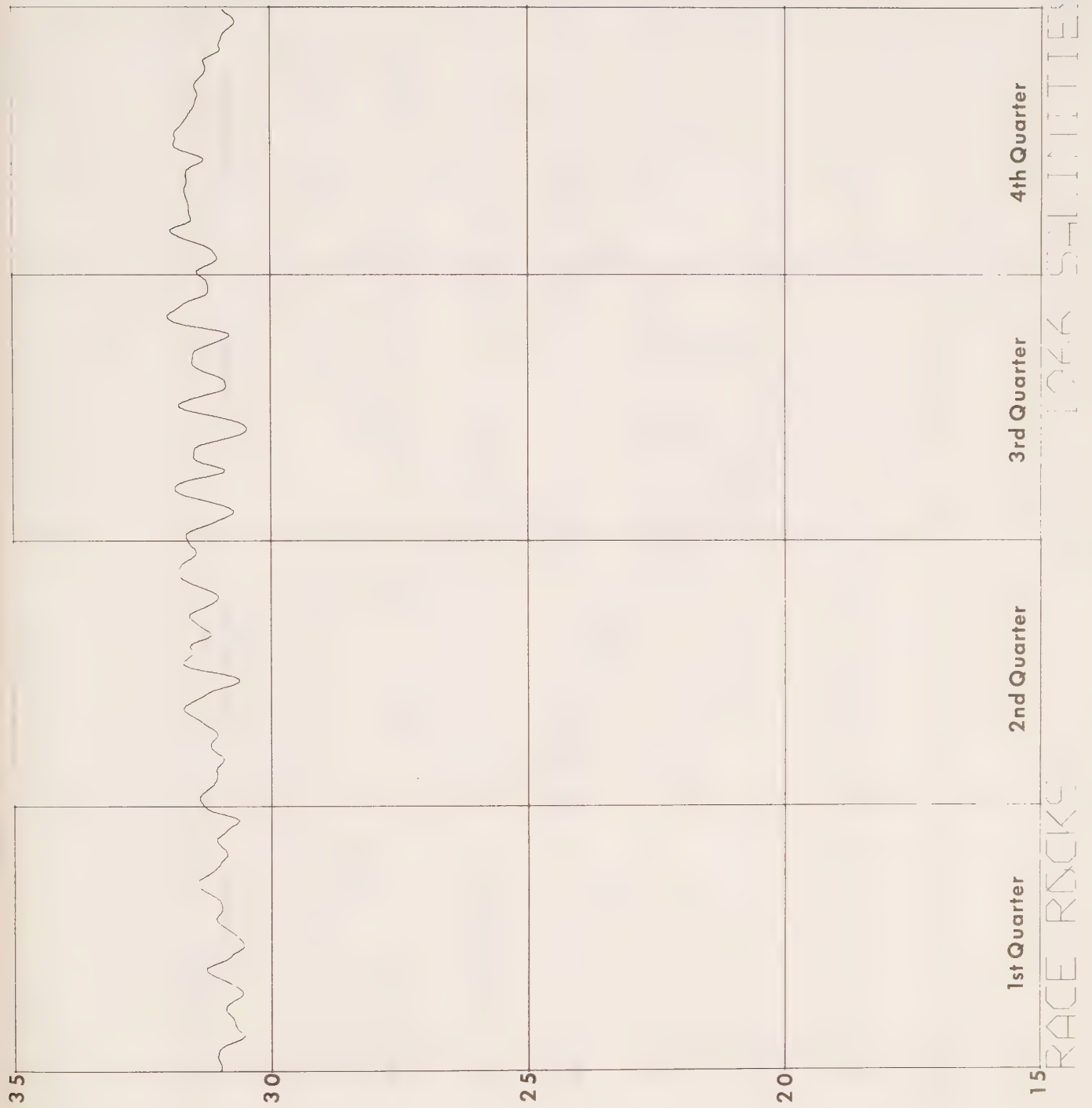


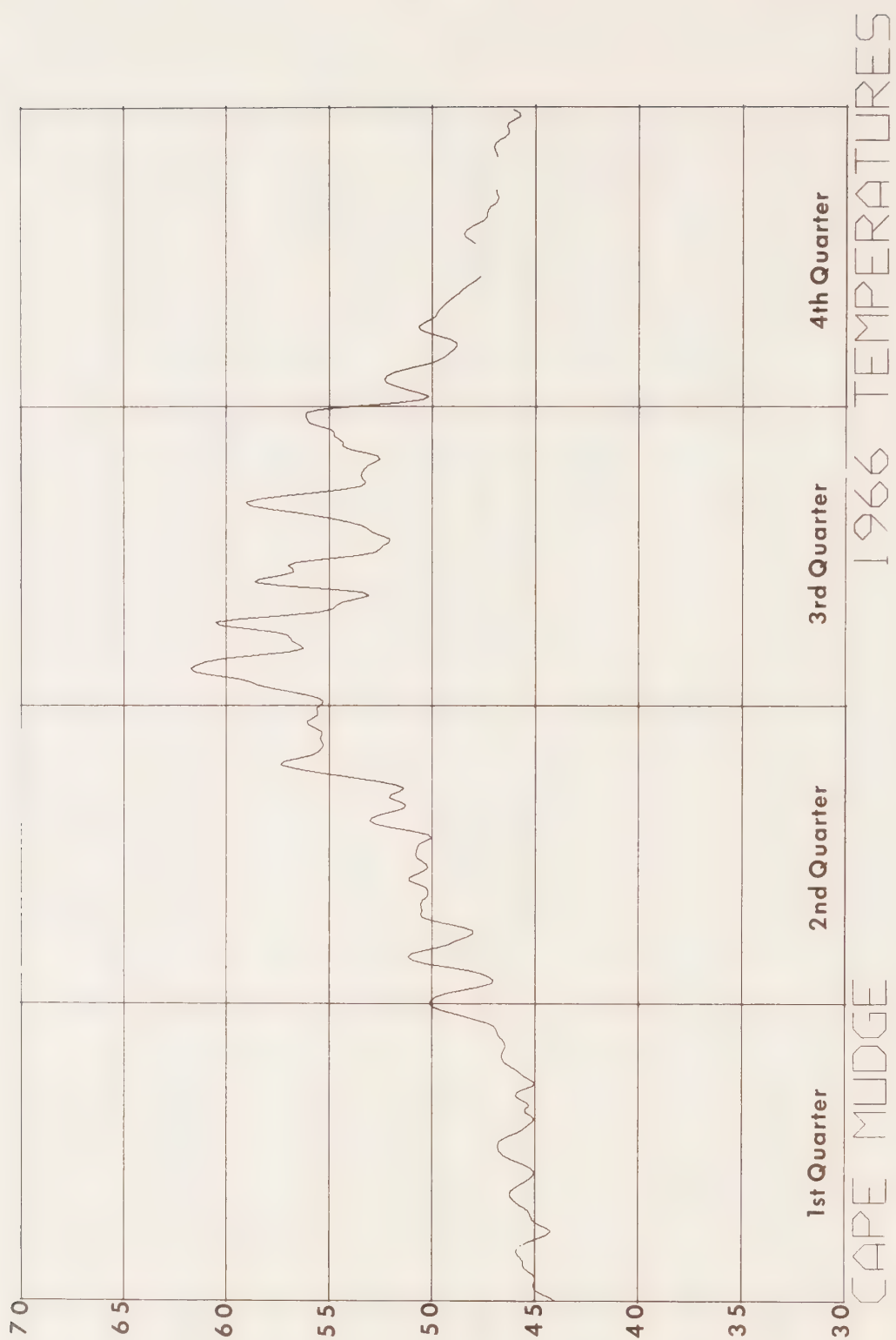


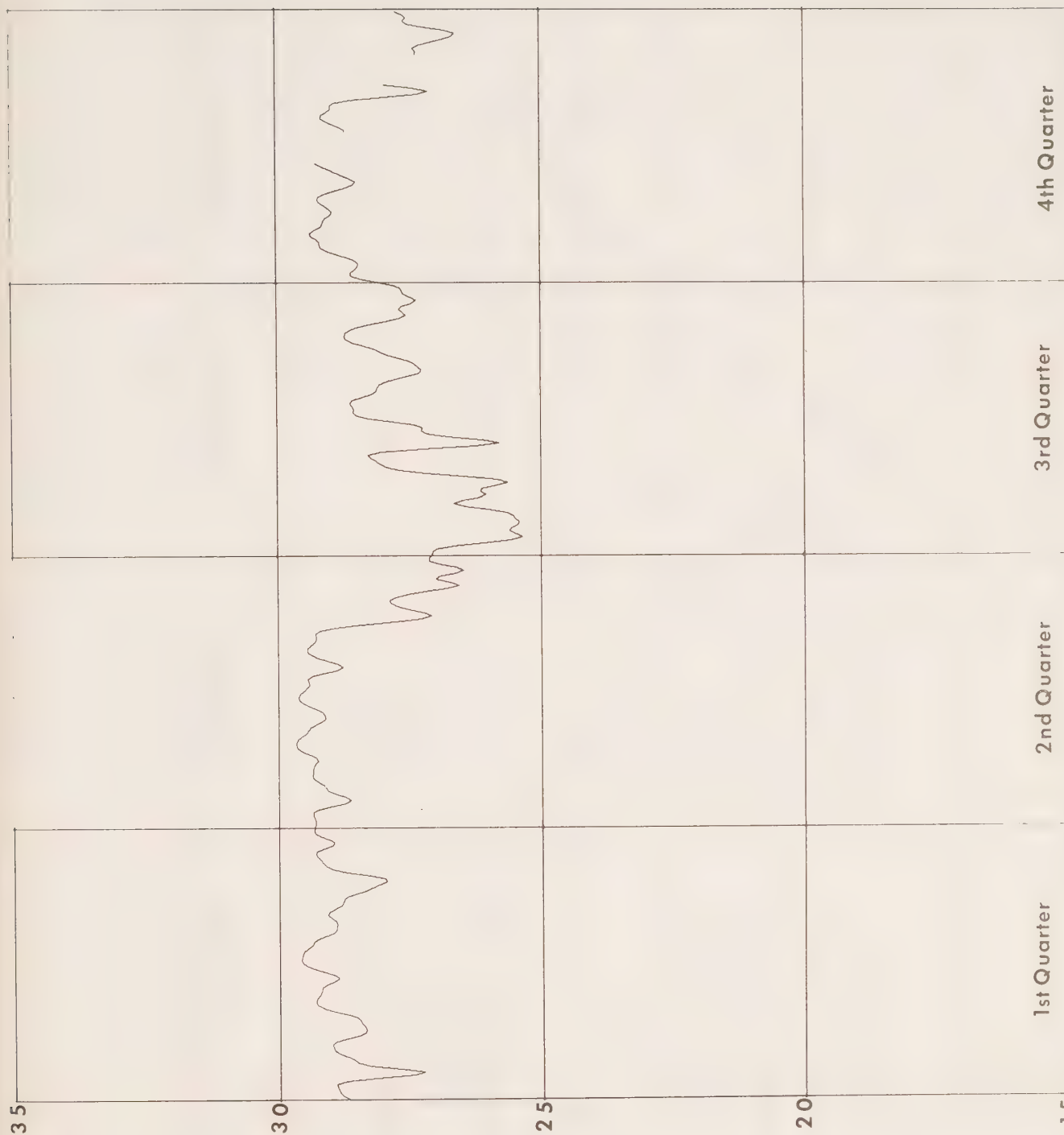






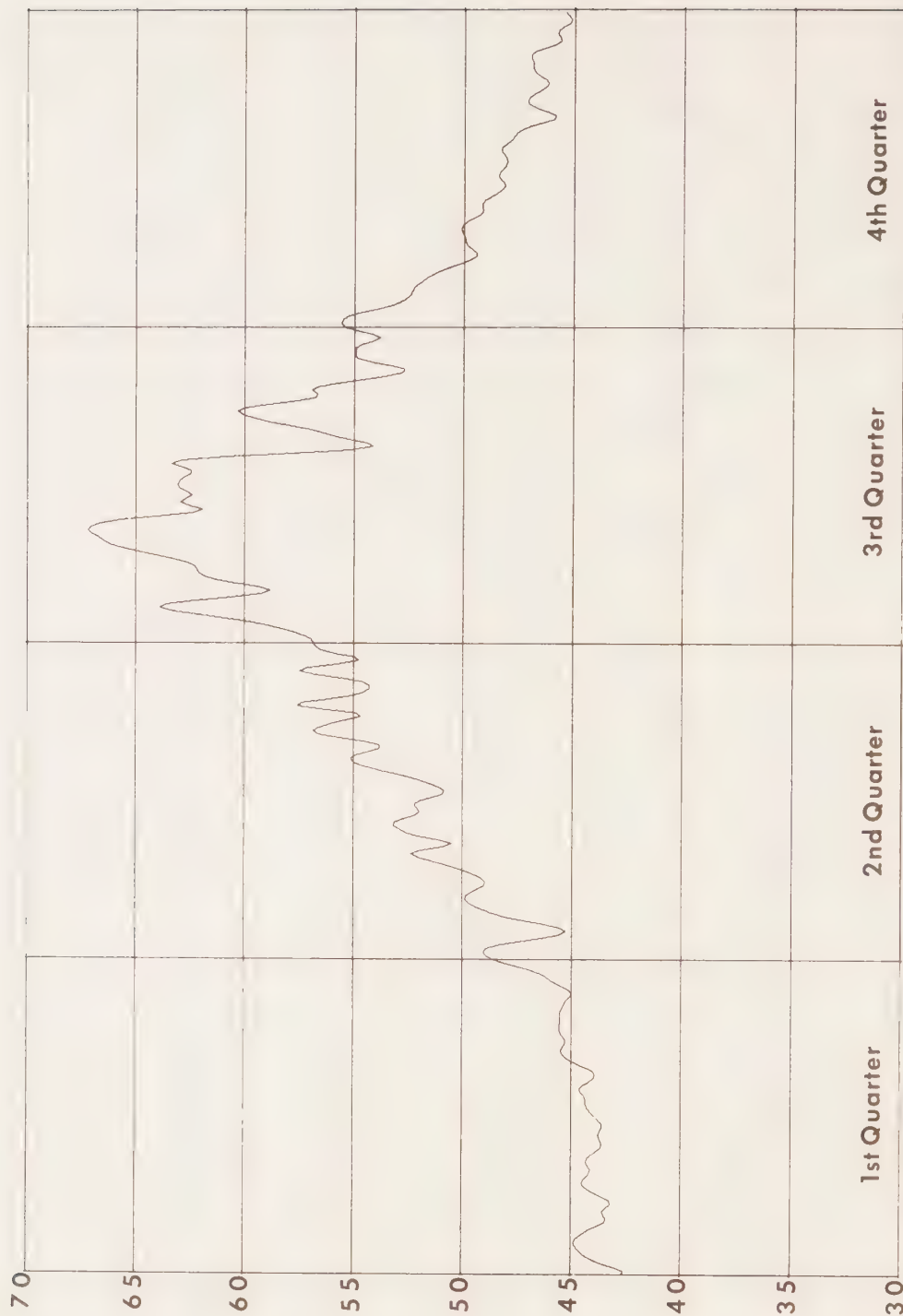




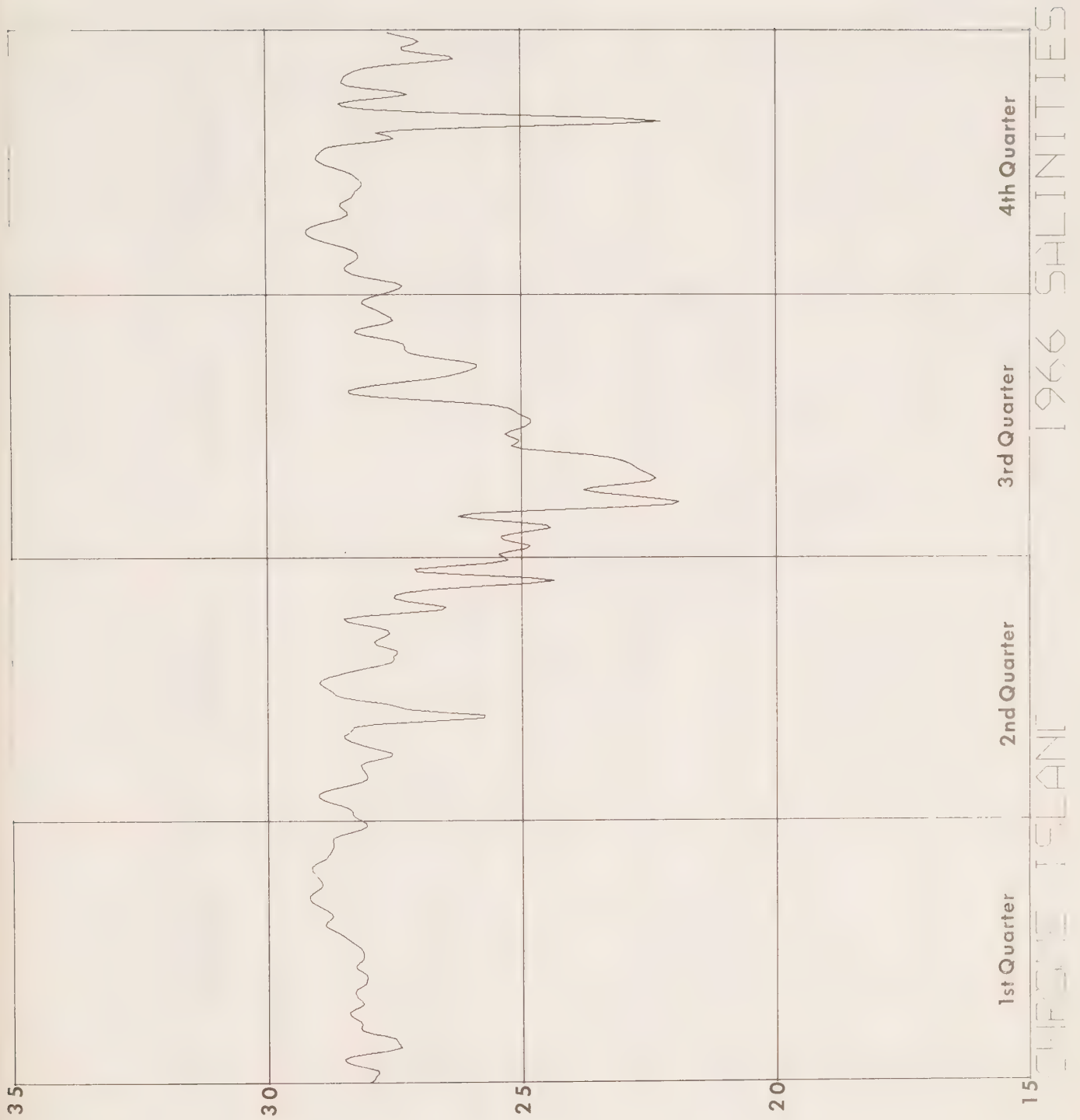


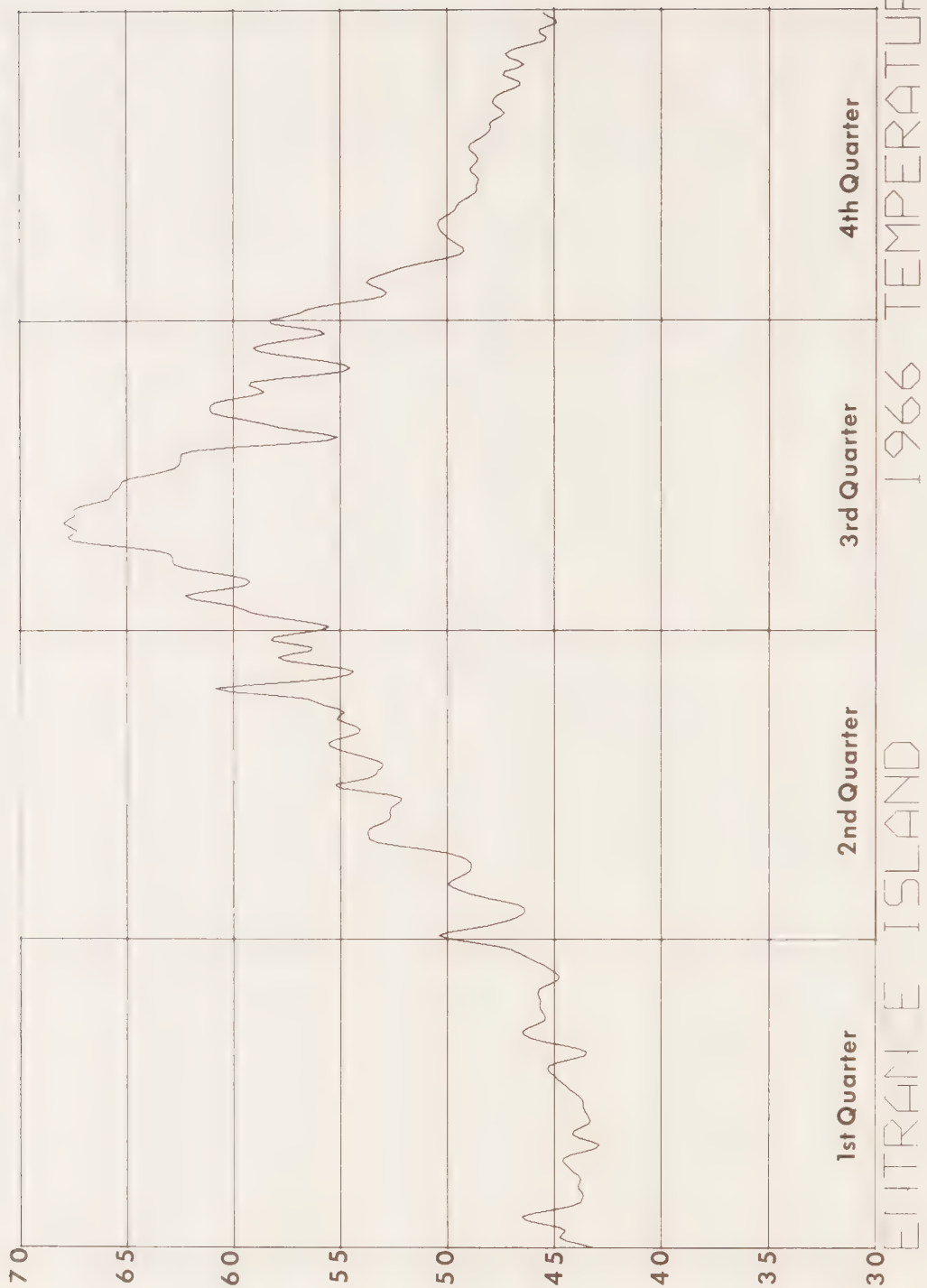
CAPE MUDGE 1966 SAIT

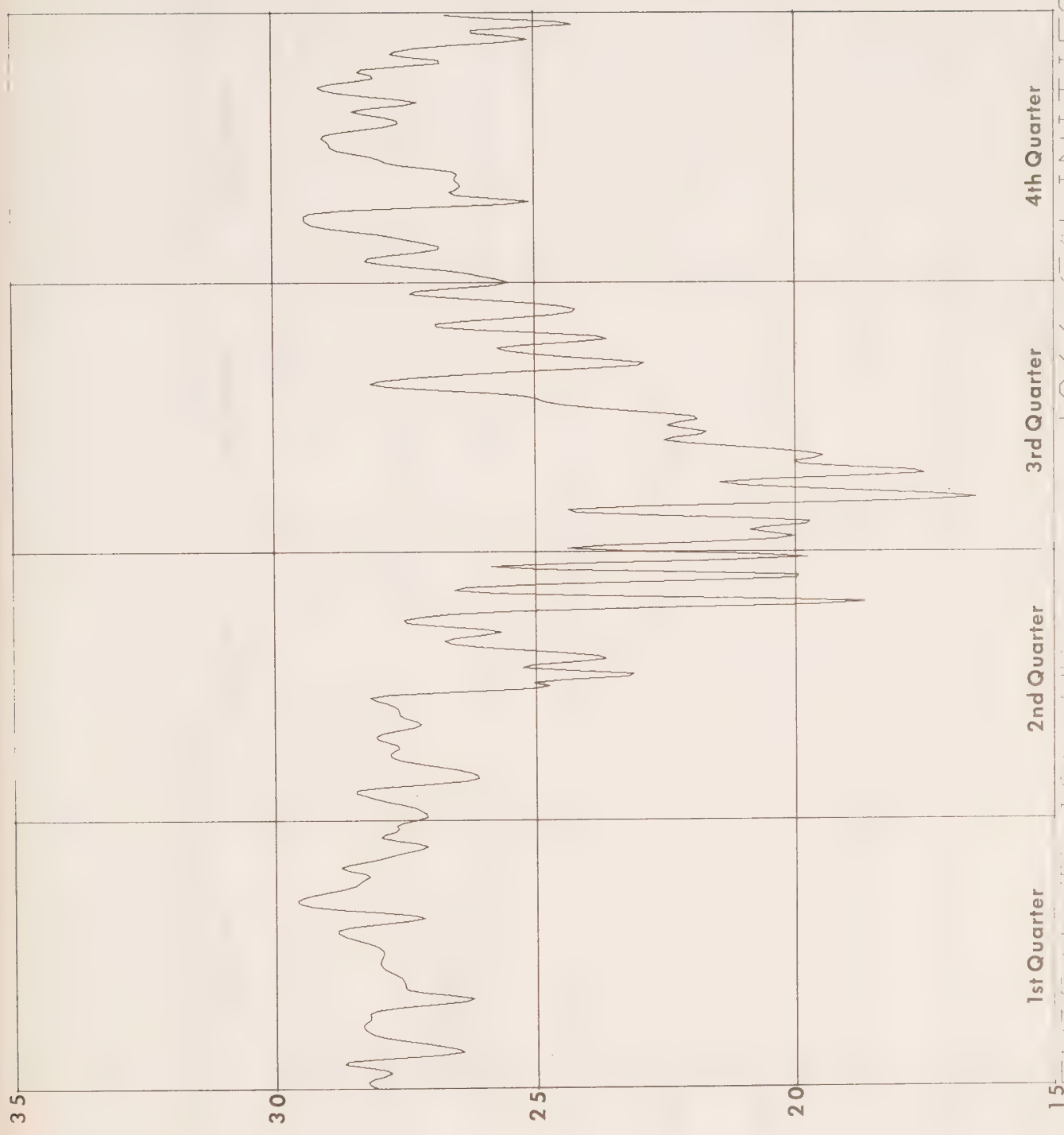




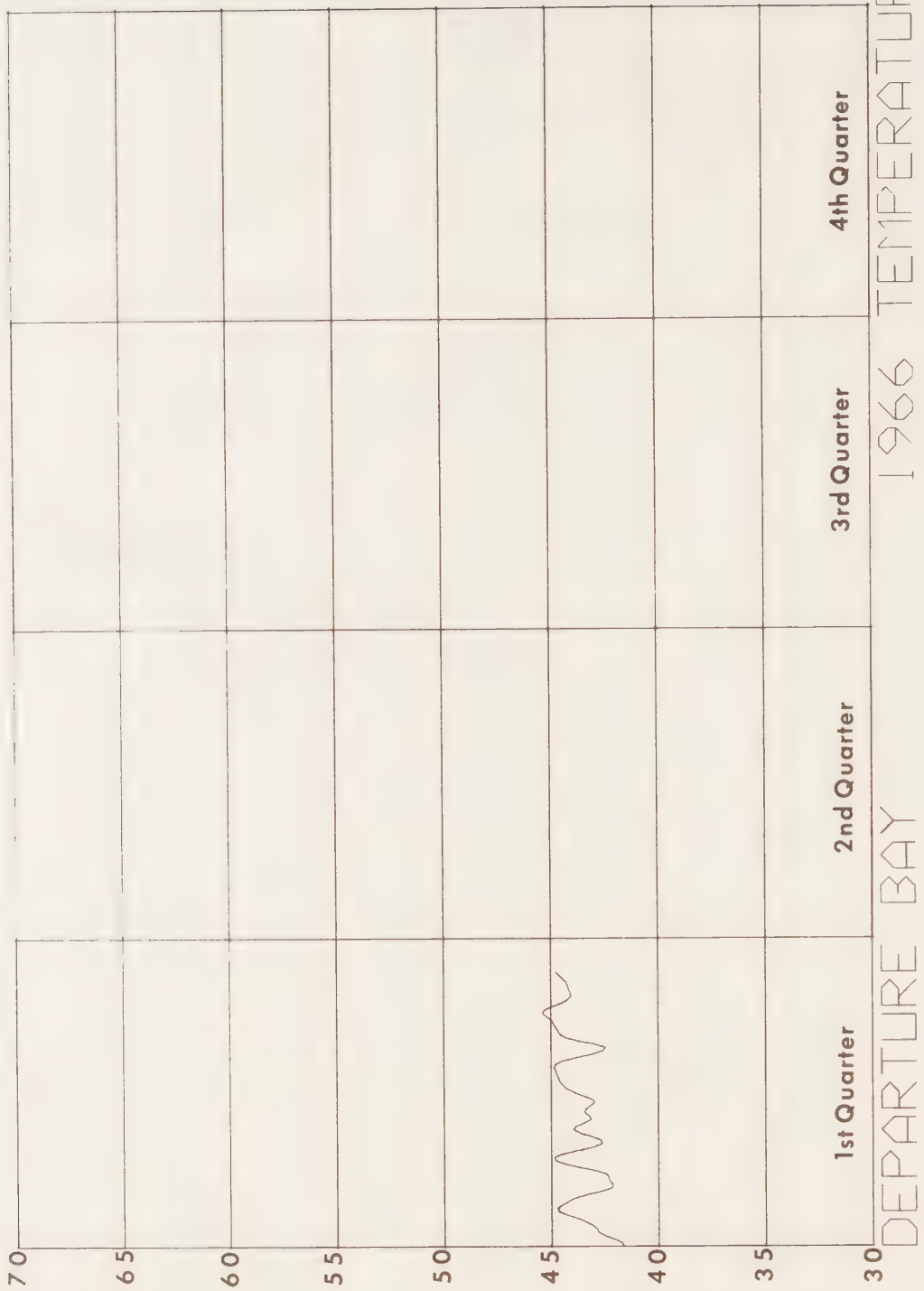
CHROME 151 HIL 1966 TEMPERATURES



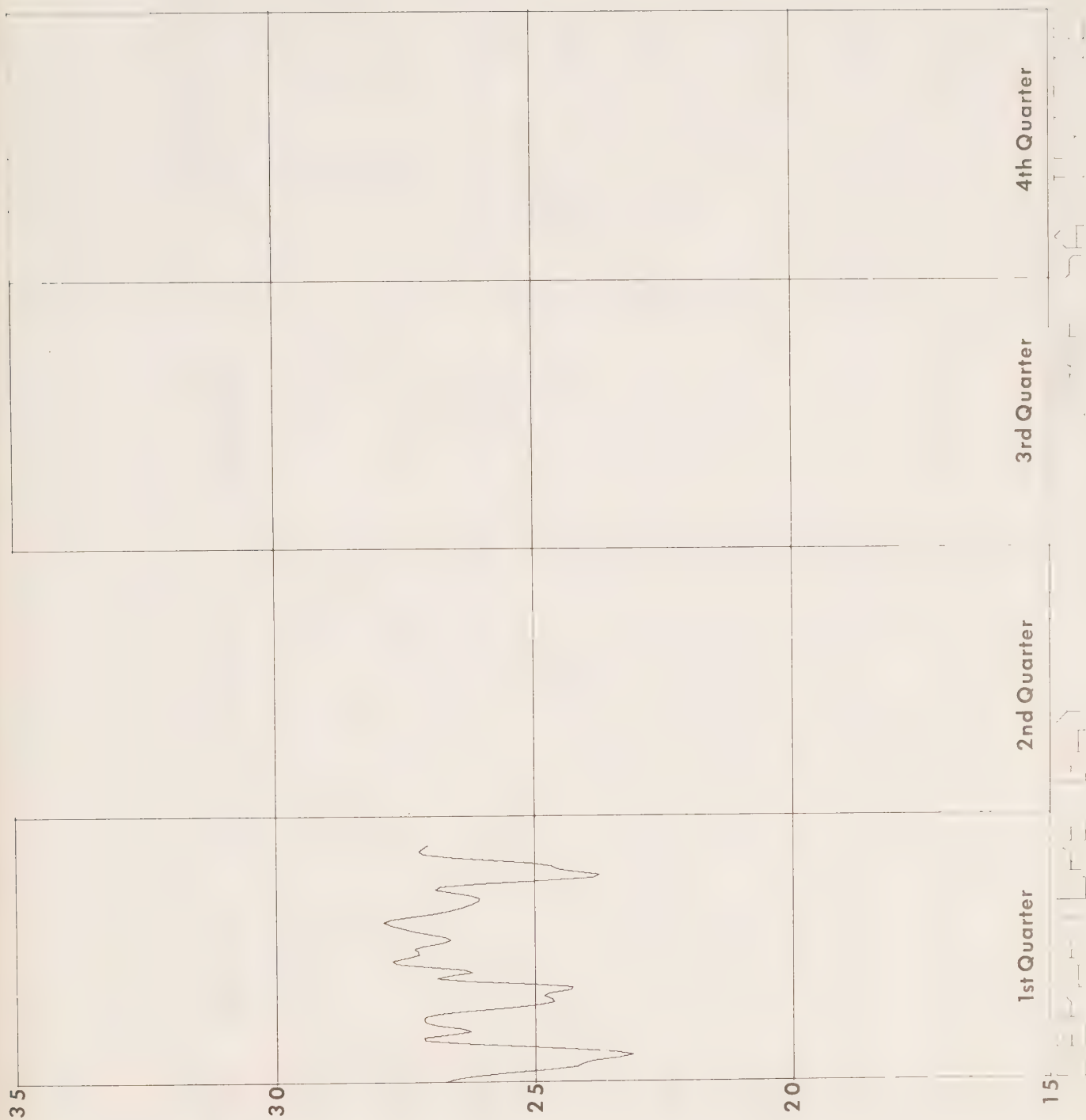


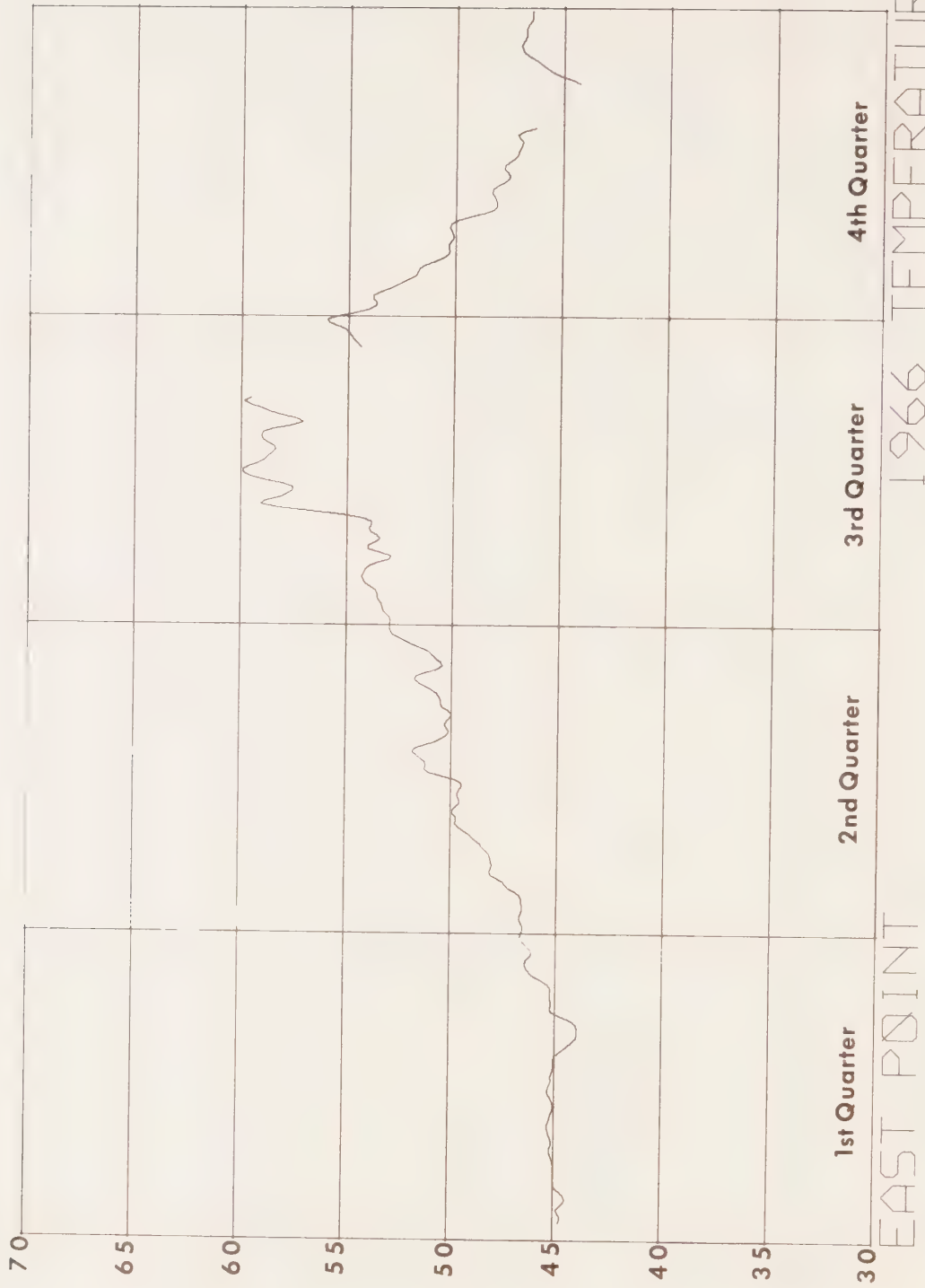


1966 SALINITIES

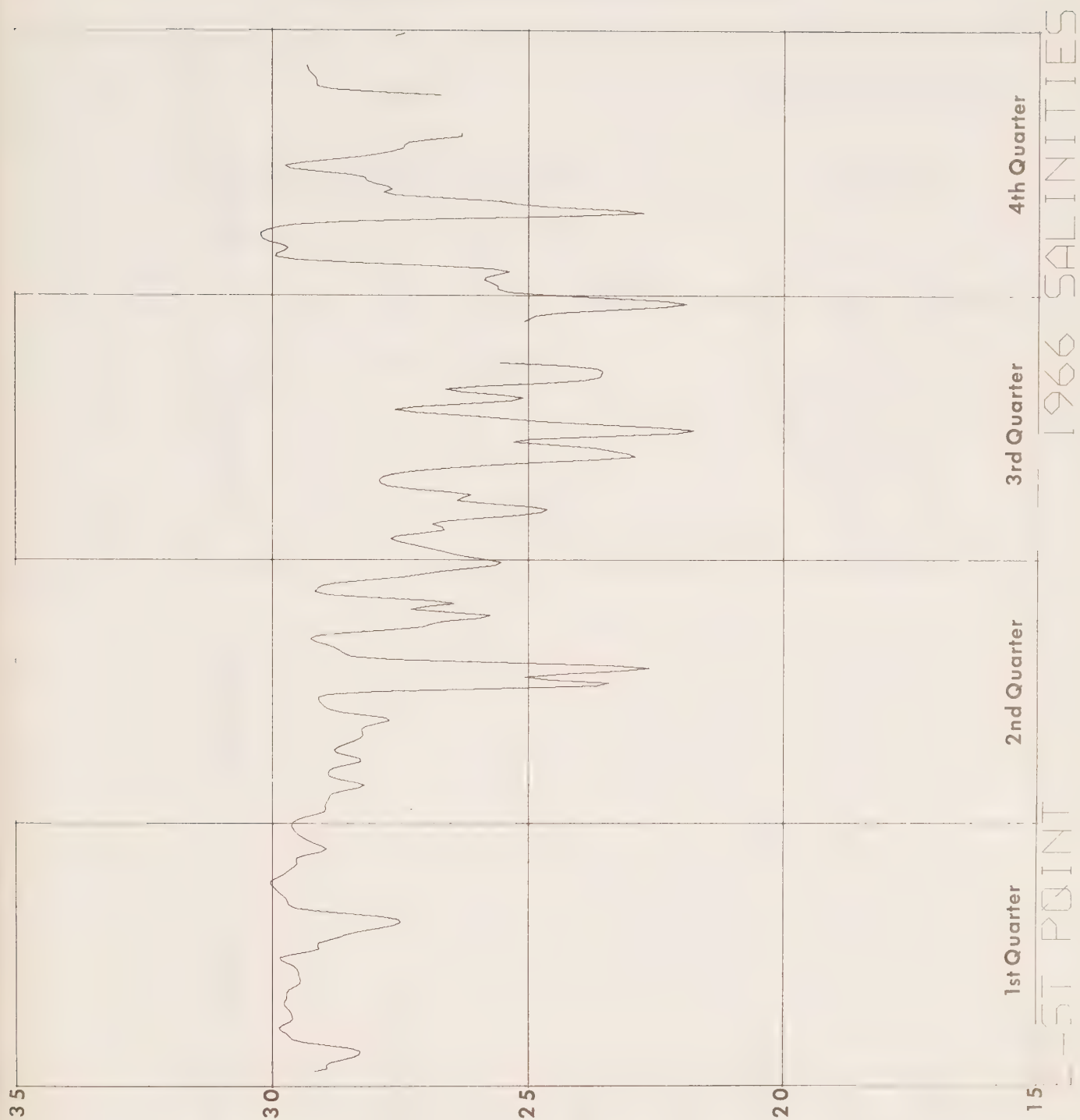






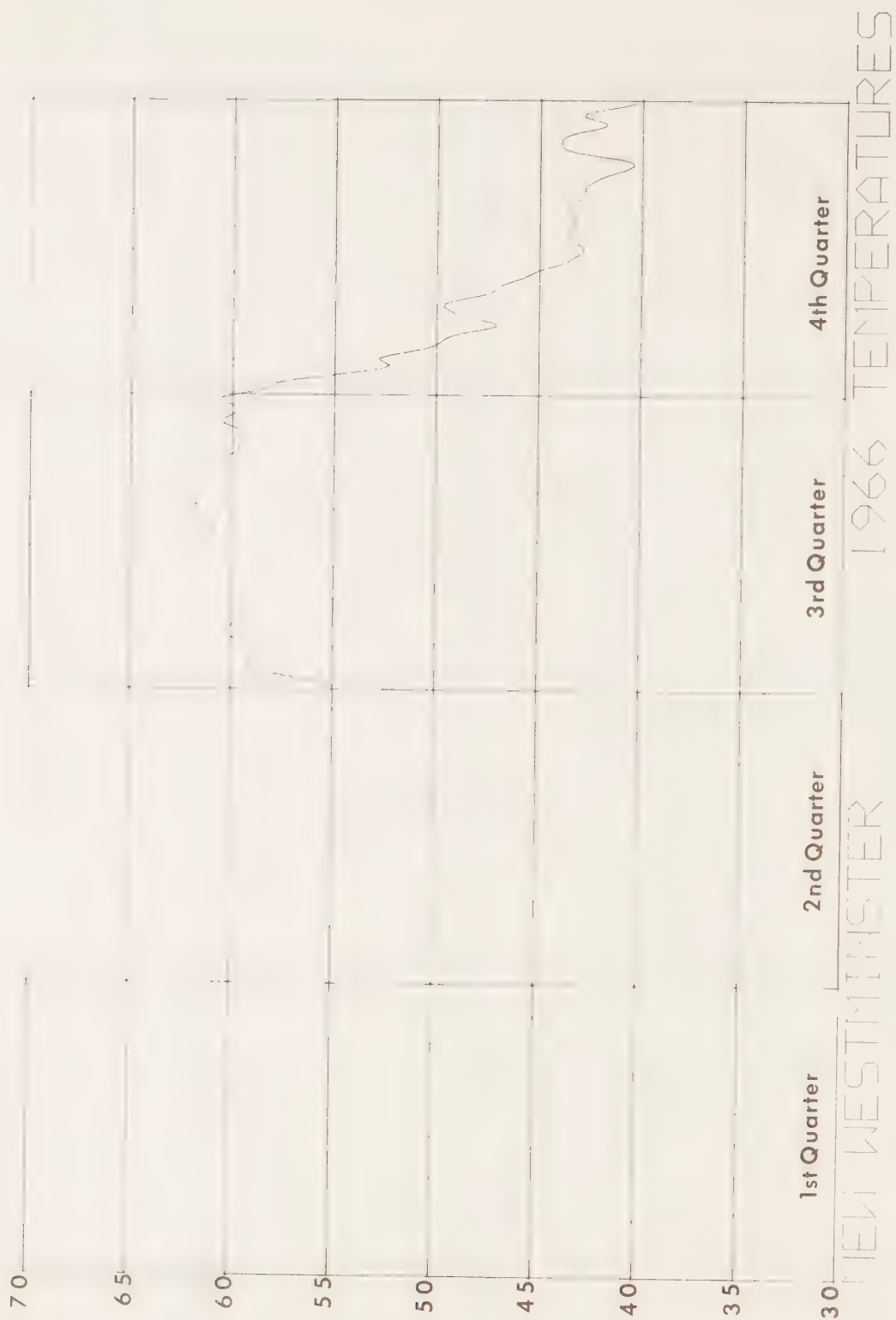


EAST POINT 1966 TEMPERATURES



1966 SALINITIES

1st Quarter 2nd Quarter 3rd Quarter 4th Quarter



PRINTED PUBLICATIONS OF THE CANADIAN OCEANOGRAPHIC DATA CENTRE  
IN THE 1968 DATA RECORD SERIES

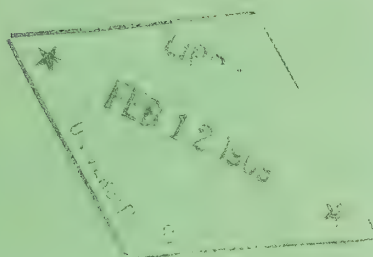
| NO. | TITLE  | CODC REFERENCE         |
|-----|--|------------------------|
| 1   | Stanwell-Fletcher Lake, Somerset<br>Island, N.W.T. 1965-1966 | 07-65-002<br>07-66-002 |
| 2   | Ocean Weather Station "P"                                    | 02-67-001<br>02-67-002 |
| 3   | Gulf of St. Lawrence   | 10-67-008              |
| 4   | Hudson Bay, Hudson Strait<br>and Arctic                      | 02-67-001<br>02-67-013 |
| 5   | Ocean Weather Station "P"                                    | 02-67-003<br>02-67-004 |
| 6   | Baffin Bay Bathythermograms                                  | 10-64-020              |
| 7   | Scotian Shelf  | 10-67-002              |







DEPARTMENT OF ENERGY, MINES AND RESOURCES  
Ottawa



# OCEAN WEATHER STATION 'P' NORTH PACIFIC OCEAN

July 3 to September 14, 1967

No. 9

1968 Data Record Series

Canadian Oceanographic Data Centre

Programmed by the  
Canadian Committee on Oceanography

1968

ROGER DUHAMEL, F.R.S.C.  
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY  
Ottawa, 1968

Cat. No. M58-1/1968-9

# **OCEAN WEATHER STATION 'P'**

## **NORTH PACIFIC OCEAN**

**July 3 to September 14, 1967**

**CODC References 02-67-005  
02-67-006**

**No. 9**

**1968 Data Record Series**

**DEPARTMENT OF ENERGY, MINES AND RESOURCES**

**Canadian Oceanographic Data Centre**

**615 Booth St., Ottawa, Canada**

**Programmed by the Canadian Committee on Oceanography**





FISHERIES RESEARCH BOARD OF CANADA

Ocean Weather Station "P", North Pacific Ocean

|                               |                      |                     |
|-------------------------------|----------------------|---------------------|
| Ships:                        | CCGS "Vancouver"     | CCGS "Stonetown"    |
| Local cruise<br>designations: | P-67-3               | Patrol No. 75       |
| Cruise periods:               | July 3-Aug.10, 1967  | Aug.4-Sept.14, 1967 |
| Scientist-in-Charge:          | J. Wong              |                     |
| Observers:                    | D. Loewen<br>S. Rupp | Ship's crew         |

Pacific Oceanographic Group, Nanaimo, B.C.



## SECTION I

Description of data collection procedures





Figure 1.

The Canadian Weather Ship CCGS "Vancouver"

Photo by  
Canadian Hydrographic Service  
Victoria, B.C.







Figure 2.

The Canadian Weather Ship C.C.G.S. "Stonetown".

( D.O.T. Photo )

Bathythermograph soundings boom can be seen below the bridge on the signal deck.



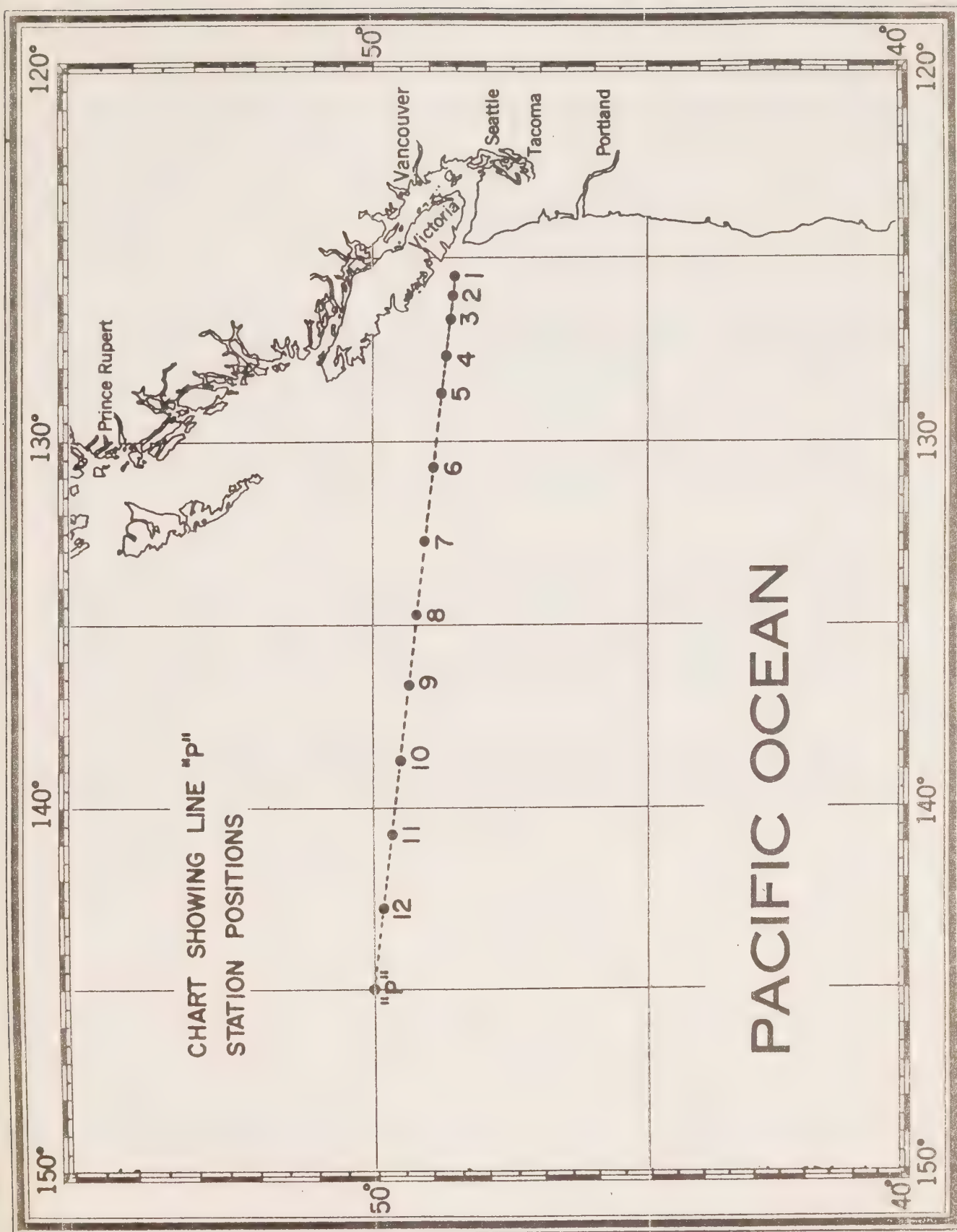


Figure 3.





## INTRODUCTION

Canadian operation of Ocean Weather Station "P" (latitude 50°00'N, longitude 145°00'W) was inaugurated in December 1950. The Station is manned by two vessels operated by the Marine Services Branch of the Department of Transport. They are the CCGS "Vancouver" and the CCGS "Stonetown" (Fig. 1 and 2). Each ship remains on Station for a period of 6 weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch. The chief purpose of the Station is to operate as a meteorological station for surface and upper-air observations, and as an air-sea rescue station.

The CCGS "Vancouver" is completely equipped with deck and laboratory facilities required to make bathythermograph and oceanographic observations. Oceanographers from the Pacific Oceanographic Group accompany the ship on each patrol. The CCGS "Stonetown" is equipped with bathythermograph equipment only. The BT observations on both ships are made by members of the ship's crew.

Bathythermograph observations have been made at Station "P" since July 1952. A program of oceanographic observations was commenced in August 1956, and it has been increased and altered to suit the requirements for new and additional information.

CRUISE LOG, CCGS "VANCOUVER", SURVEY P-67-3

- July 3: departed from Esquimalt, B.C.; no BT observations made enroute to Station 'P', due to late departure.
- July 5: rendezvous with CCGS "Stonetown". Proceeded with proposed program.
- Aug. 7: relieved by CCGS "Stonetown" and proceeded on the return journey; 7 oceanographic stations were observed on Line P. A total of 275 BT observations were made by the ship's crew during the patrol.
- Aug. 10: docked at Esquimalt base.

OBSERVATIONAL PROCEDURES

During survey P-67-3, water samples and temperatures were obtained at depth with Nansen water sample bottles equipped with either Richter and Wiese or Yoshino reversing thermometers. Surface samples (0 m) were obtained in a one-gallon rubber bucket, except for temperature which was measured using a reversing thermometer.

Station locations were determined by the officers of the watch, who also made the meteorological observations reported with the oceanographic data.

LABORATORY PROCEDURES

The salinity determinations of the oceanographic station samples from Survey P-67-3, and of the daily surface samples taken in conjunction with the BT observations from both ships, were made with an inductive salinometer, Model 601 MK III, Auto-Lab Industries. Most of the oceanographic station samples were analysed on board "Vancouver". The salinity data are the means

of duplicate determinations, and are considered to have an accuracy at the 35‰ salinity level of  $\pm 0.003\%$ . (Brown and Hamon, 1961).

The conversions from conductivity ratio to salinity were made from tables supplied by the manufacturer of the salinometer. These tables are derived from the report by Thomas, Thompson and Utterback (J. Cons. Vol. 9, 1934) and from calculations made by A.P. Francischetti, U.S. Intl. Ice Patrol.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Strickland and Parsons, 1965). The data are the means of duplicate determinations.

#### BATHYTHERMOGRAPH OBSERVATIONS

BT observations to 275 m depth were made from "Vancouver" every 3 hours during the patrol, and also on the return journey to the base. The "Stonetown" made 10 BT observations during the journey to Station P, and took 181 observations to 275 m every 3 hours whilst on station, only missing 3 days. One BT observation was made on the ingoing trip.

The bathythermograms have been prepared at the Canadian Oceanographic Data Centre in their BT-aperture card format (Sauer, 1964), and copies are available from the Centre. The bathythermograms presented in Section IV of this data record were reproduced from the BT-aperture cards. The consecutive number entered below each bathythermogram refers to an entry in Table 1 which lists the information concerning time/date, position, and associated meteorological information.

#### PERSONNEL

The scientist-in-charge of the Station 'P' program was Mr. J. Wong. The oceanographers on board "Vancouver" during survey P-67-3 were Messrs. J. Wong, D. Loewen, and S. Rupp.

The master of the ship was Captain J.H. Linggard. The ships' crews made the BT observations.



## SECTION II

Description of the machine-generated data record





## INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch-cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. When interpolations are carried out, additional derived values are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an **"estimate of precision"** for each observed variable selected for interpolation at standard oceanographic depths. The precision depends on the instrument and/or technique used to determine the variable. A standard precision stated as a **standard deviation** ( $\sigma$ ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under **"GENERAL INFORMATION"** in section III of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e.,  $1\sigma = A$ ,  $2\sigma = B$ , etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an **"interpolation error estimate"** derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of the interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable (T, S,  $O_2$ ) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the **"measurement error estimate"** comprises the **"combined measurement and interpolation error estimate"**. It is expressed as a multiple of the standard deviation of measurement ( $\sigma$ ) under normal routine field conditions by:

# CANADIAN OCEANOGRAPHIC DATA CENTRE

| MASTER   |  |  |                  |  |  |                   |  |  |            |  |  |              |  |  |              |  |  |                     |  |  |              |  |  |            |  |  |                     |  |  |               |  |  |                            |  |  |                   |  |  |    |  |  |
|--|--|--|------------------|--|--|-------------------|--|--|------------|--|--|--------------|--|--|--------------|--|--|---------------------|--|--|--------------|--|--|------------|--|--|---------------------|--|--|---------------|--|--|----------------------------|--|--|-------------------|--|--|----|--|--|
| 1 IDENT. CODE  |  |  | 2 LATITUDE (N=+) |  |  | 3 LONGITUDE (W=+) |  |  | 5 DATE     |  |  | 6 TIME       |  |  | 7 DEPTH      |  |  | 9 NO. DEPTHS OBS'D. |  |  | VESSEL       |  |  | ENTERED BY |  |  | CHECKED BY          |  |  |               |  |  |                            |  |  |                   |  |  |    |  |  |
| 1 8  |  |  | 1 8              |  |  | 1 8               |  |  | 1 8        |  |  | 1 8          |  |  | 1 8          |  |  | 1 8                 |  |  | 1 8          |  |  | 1 8        |  |  | 1 8                 |  |  |               |  |  |                            |  |  |                   |  |  |    |  |  |
| 10 WATER   |  |  | 11 WAVES I       |  |  | 12 WAVES II       |  |  | 13 WIND    |  |  | 14 BAROMETER |  |  | 15 AIR TEMP. |  |  | 16 WET BULB         |  |  | 17 W.W. CODE |  |  | 18 CLOUD   |  |  | 19 HOURS AFTER H.W. |  |  | 21 UNASSIGNED |  |  | 22 CRUISE REFERENCE NUMBER |  |  | 23 CONSEC. NUMBER |  |  | 24 |  |  |
| COLOUR, TRANS.   |  |  | DW DW PW HW      |  |  | DW DW PW HW       |  |  | DIR. FORCE |  |  |              |  |  | 10           |  |  | 10                  |  |  | (SEPT. 62)   |  |  | 1          |  |  |                     |  |  |               |  |  |                            |  |  |                   |  |  |    |  |  |
| 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  |  |                  |  |  |                   |  |  |            |  |  |              |  |  |              |  |  |                     |  |  |              |  |  |            |  |  |                     |  |  |               |  |  |                            |  |  |                   |  |  |    |  |  |

| OBSERVED CARD   |  |  |                   |  |  |               |  |  |            |  |  |           |  |  |                        |  |  |              |  |  |                        |  |  |                        |  |  |                          |  |  |         |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |
|---|--|--|-------------------|--|--|---------------|--|--|------------|--|--|-----------|--|--|------------------------|--|--|--------------|--|--|------------------------|--|--|------------------------|--|--|--------------------------|--|--|---------|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|
| 1   |  |  | 2                 |  |  | 3             |  |  | 4          |  |  | 5         |  |  | 6                      |  |  | 7            |  |  | 8                      |  |  | 9                      |  |  | 10                       |  |  | 11      |  |  | 12 |  |  | 13 |  |  | 14 |  |  | 15 |  |  | 16 |  |  | 17 |  |  | 18 |  |  | 19 |  |  | 20 |  |  |
| 6 TIME  |  |  | 7 DEPTH OF SAMPLE |  |  | 8 TEMPERATURE |  |  | 9 SALINITY |  |  | 10 OXYGEN |  |  | 11 PO <sub>4</sub> - P |  |  | 12 TOTAL - P |  |  | 13 NO <sub>2</sub> - N |  |  | 14 NO <sub>3</sub> - N |  |  | 15 SiO <sub>2</sub> - Si |  |  | 16 P.H. |  |  | 17 |  |  | 18 |  |  | 19 |  |  | 20 |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |
| HOURS G.M.T.  |  |  | e                 |  |  | e             |  |  | d/e        |  |  | e         |  |  | ↓                      |  |  | ↓            |  |  | ↓                      |  |  | ↓                      |  |  | ↓                        |  |  | ↓       |  |  | ↓  |  |  | ↓  |  |  | ↓  |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |
| 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 |  |  |                   |  |  |               |  |  |            |  |  |           |  |  |                        |  |  |              |  |  |                        |  |  |                        |  |  |                          |  |  |         |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left( \frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

$\sigma$  = Standard deviation of the combined error estimates at standard oceanographic depth,

$\Delta V_i$  = the interpolation error estimate of variable "V" at standard oceanographic depth =  $1/3 (\bar{V}_{i_1} - V_{i_2})$

$\gamma$  = Interpolation polynomial coefficient.

$Z_j$  = Observed depth.

$Z_i$  = Standard oceanographic depth, such that:  $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction  $\frac{\sigma_i}{\sigma}$ , if  $\geq 2$ , is reported in this Data Record following the interpolated variable. It represents the combined measurement and interpolation error estimate. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the interpolation error estimate is given only when  $\frac{\sigma_i}{\sigma} \geq 2$  (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

## EXPLANATION OF DATA RECORD HEADINGS

## MASTER HEADINGS

|              |           |               |              |              |          |
|--------------|-----------|---------------|--------------|--------------|----------|
| (1) C-REF-NO | (6) YR    | (11) DEPTH    | (16) WAVES 1 | (21) AIR T   | (26) VIS |
| (2) CONS. NO | (7) MONTH | (12) MXSAMPD  | (17) WAVES 2 | (22) WET B   | (27) STN |
| (3) LAT      | (8) DAY   | (13) NO. DPTH | (18) WND-DIR | (23) ww-CODE |          |
| (4) LON      | (9) HR    | (14) W-COLOR  | (19) WND-FCE | (24) CLD-TPE |          |
| (5) MARSD SQ | (10) C/I  | (15) W-TRNSP  | (20) BARO    | (25) CLD-AMT | (28) HW  |

(1) CRUISE REFERENCE NUMBER: Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the CRN was a number designated by CODC.

(2) CONSECUTIVE NUMBER: Indicates the chronological order in which the stations were occupied.

(3) LATITUDE: Indicate the position of the platform at the time of observation.

(4) LONGITUDE:

(5) MARSDEN SQUARE: Designates the geographic area code of the observation (see Marsden square chart).

(6) YEAR:

(7) MONTH:

(8) DAY:

(9) HOUR: The time (Greenwich Mean Time) at which the surface environmental data were recorded. It is reported to tenths of hours (Table 1).  
If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.

(10) COUNTRY/INSTITUTE: The International Geophysical Year (IGY) Country Code/Institute Code - see Table 11.

(11) DEPTH: The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section III. Charted depths are preceded by the letter "C".

(12) MAXIMUM SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).  
00 m - 50 m = 00  
51 m - 150 m = 01  
151 m - 250 m = 02  
etc.



- (13) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch-cards).
- (14) WATER COLOUR: A code based on the percentage of yellow (see table 2 and Note under FIELD "15" below).
- (15) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section III of the data record will state which method was used.
- (16) WAVES 1  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the **wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (17) WAVES 2  
( $d_w d_w P_w H_w$ -code): The direction, period and height of the predominant **non-wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (18) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing (wind direction 990 means:—wind variable or direction unknown).
- (19) WIND FORCE (WND-FC): Beaufort notation (See Table 6).
- WIND SPEED (WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section III.
- (20) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section III of the data record will state the type of instrument used.
- (21) AIR TEMPERATURE: In degrees Celsius.
- (22) WET BULB: In degrees Celsius.
- (23) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (24) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (25) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (26) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (27) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (28) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

## OBSERVED DATA HEADINGS

|           |            |          |             |             |              |
|-----------|------------|----------|-------------|-------------|--------------|
| (1) GMT   | (2) DEPTH  | (3) TEMP | (4) SAL     | (5) OXYGEN  | (6) SGMT     |
| (7) SOUND | (8) $PO_4$ | (9) -P-  | (10) $NO_2$ | (11) $NO_3$ | (12) $SiO_2$ |
|           |            |          |             | (13) pH.    |              |

NOTE: Readings (1) to (7) will always be present. Readings (8) to (13) appear only when one or more additional chemical entries were made.

(1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.

When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.

(2) DEPTH: The depth in metres at the reversal time of deepest cast.

(3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of section III. An alphabetical character following the temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.

(4) SALINITY: Salinity as defined by:  $S = 0.03 + 1.805 C1\%$ , reported in:  
 a. 1/100 parts per 1000, or  
 b. 1/1000 parts per 1000.

In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3).

In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.

(5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).

(6) SIGMA-T: The specific gravity anomaly as defined by:  $(\text{Specific gravity} - 1) \times 10^3$  (e.g.,  $\sigma_t$  reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).

(7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

- (8)  $\text{PO}_4$  Phosphate-Phosphorus reported to hundredths of microgram-atoms per litre.
- (9) -P- Total Phosphorus reported to hundredths of microgram-atoms per litre.
- (10)  $\text{NO}_2$  Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre — No dissolved nitrogen included —
- (11)  $\text{NO}_3$  Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.
- (12)  $\text{SiO}_2$  Silicate-Silicon reported in whole microgram-atoms per litre.
- (13) pH The pH value.

NOTE: "TRC" (trace) is reported when a chemical entry has a value less than the standard deviation of measurement for that particular variable.

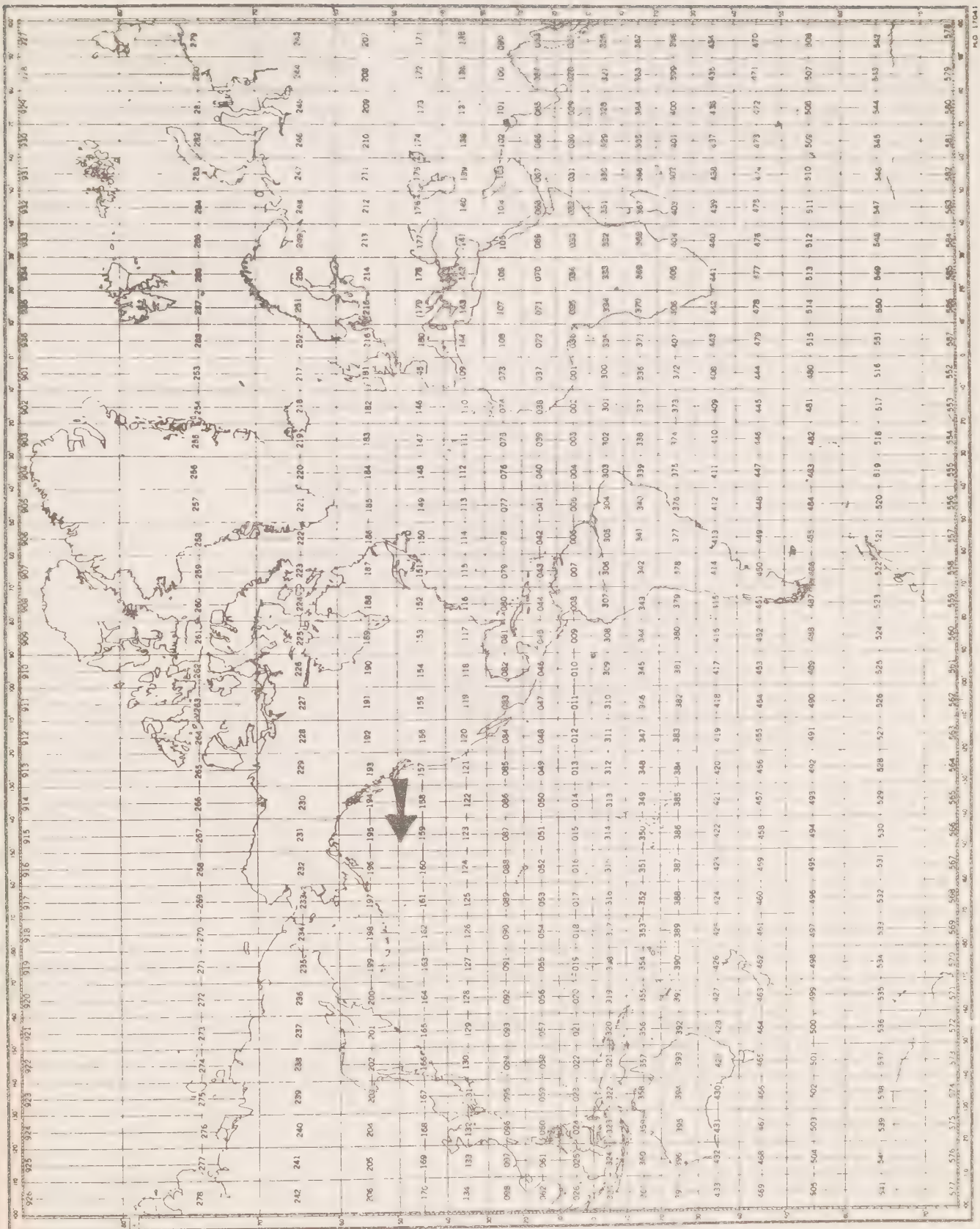
#### INTERPOLATED DATA HEADINGS

|                    |                   |                |                   |                 |                  |
|--------------------|-------------------|----------------|-------------------|-----------------|------------------|
| (1) <i>DEPTH</i>   | (2) <i>TEMP</i>   | (3) <i>SAL</i> | (4) <i>OXYGEN</i> | (5) <i>SGMT</i> | (6) <i>SOUND</i> |
| (7) <i>DELTA-D</i> | (8) <i>POT-EN</i> | (9) <i>SVA</i> |                   |                 |                  |

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the combined measurement and interpolation error estimate (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY:
- A. The reported salinity values are measured to three decimal places.
    - (i) the interpolation error estimate is less than twice the standard deviation of measurement
      - the interpolated value is reported to three decimal places (e.g., 30.139).
    - (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
      - the interpolated value is reported to two decimal places, and followed by the interpolation error estimate (e.g., 29.23 C).
  - B. The reported salinity values are measured to two decimal places and followed by the measurement error estimate.
    - the interpolated value is reported to two decimal places, and followed by the combined measurement and interpolation error estimate (e.g., 30.59 B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the combined measurement and interpolation error estimate (see "Introduction" to section II of the data record).

- (5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.
- (6) SOUND VELOCITY: Computed from temperature, salinity and total pressure values at standard oceanographic depth, using Wilson's formula (1960).
- (7) DELTA-D: The geo-potential anomaly as defined by:
- $$\Delta D = \int_0^P \delta dp$$
- $\Delta D$  is expressed in dynamic metres ( $10^5$  ergs/gram) and recorded to three decimal places (e.g., 2.345 dyn. metres).
- (8) POTENTIAL ENERGY ANOMALY: The Potential energy anomaly  $\chi$  as defined by:
- $$\chi = \frac{1}{g} \int_0^P p \delta dp = \int_0^Z \rho p \delta dz$$
- $\chi$  is expressed in units of  $10^8$  ergs/cm<sup>2</sup> and recorded to two decimal places (e.g., 116.44).
- (9) SPECIFIC VOLUME ANOMALY: The specific volume anomaly as defined by:
- $$\delta = \alpha - \alpha_{35.0.P}$$
- $\delta$  is expressed in ml/gr, and conventionally reported as  $10^3 \delta$ , to one decimal place (i.e.,  $\delta$  reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).





MARS DEN SQUARE CHART



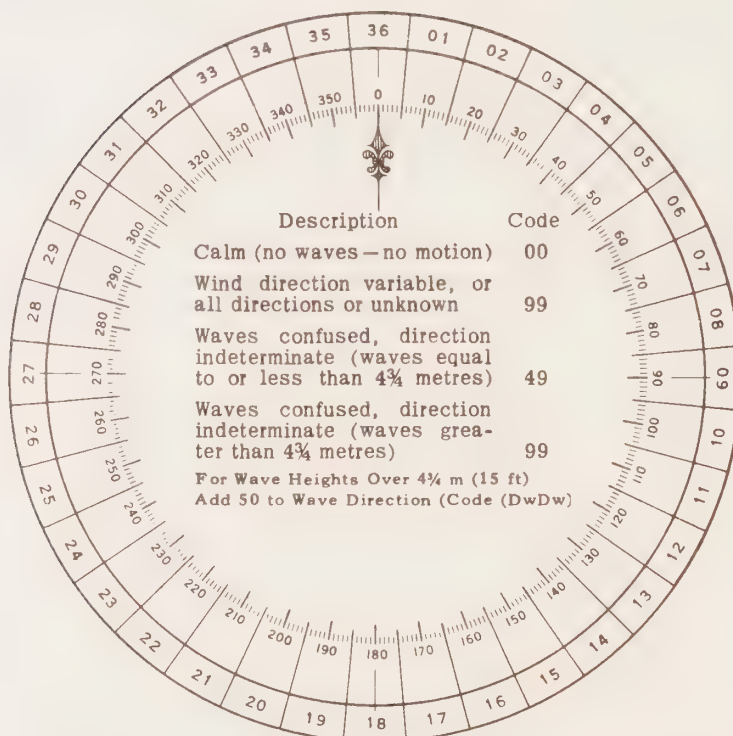
**Table 1**  
**CONVERSION**  
**MINUTES TO  $\frac{1}{10}$  HRS.**

| Minutes | Tenths Hrs.  |
|---------|--------------|
| 00-03   | 0            |
| 04-08   | 1            |
| 09-15   | 2            |
| 16-20   | 3            |
| 21-27   | 4            |
| 28-32   | 5            |
| 33-39   | 6            |
| 40-44   | 7            |
| 45-51   | 8            |
| 52-56   | 9            |
| 57-59   | 0 (next HR.) |

**Table 2**  
**WATER COLOR CODE**  
**Based on Percentage Yellow**

| Code: | Description     |
|-------|-----------------|
| 00    | Deep Blue       |
| 10    | Blue            |
| 20    | Greenish Blue   |
| 30    | Bluish Green    |
| 40    | Green           |
| 50    | Light Green     |
| 60    | Yellowish Green |
| 70    | Yellow Green    |
| 80    | Green Yellow    |
| 90    | Greenish Yellow |
| 99    | Yellow          |

**Table 3. DIRECTION CODE (Jd)**



**NOTE:**

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.

**Table 4. PERIOD OF THE WAVES (Pw)**  
(Measure to the Nearest Second)

| Code: | Period in Seconds: | Code: | Period in Seconds:             |
|-------|--------------------|-------|--------------------------------|
| 2     | 5 sec. or less     | 8     | 16 or 17 sec.                  |
| 3     | 6 or 7 sec.        | 9     | 18 or 19 sec.                  |
| 4     | 8 or 9 sec.        | 0     | 20 or 21 sec.                  |
| 5     | 10 or 11 sec.      | 1     | Over 21 sec.                   |
| 6     | 12 or 13 sec.      | X     | Calm, or period not determined |
| 7     | 14 or 15 sec.      |       |                                |

**Table 5. HEIGHT OF THE WAVES (Hw)**

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft); 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft); 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.

| Code |                       |                          | Code                    |
|------|-----------------------|--------------------------|-------------------------|
| 0    | Less than ¼ m (1 ft)  | Add<br>50<br>to<br>Dw Dw | 0 5 m (16 ft)           |
| 1    | ½ m ( 1½ ft)          |                          | 1 5½ m (17½ ft)         |
| 2    | 1 m ( 3 ft)           |                          | 2 6 m (19 ft)           |
| 3    | 1½ m ( 5 ft)          |                          | 3 6½ m (21 ft)          |
| 4    | 2 m ( 6½ ft)          |                          | 4 7 m (22½ ft)          |
| 5    | 2½ m ( 8 ft)          |                          | 5 7½ m (24 ft)          |
| 6    | 3 m ( 9½ ft)          |                          | 6 8 m (25½ ft)          |
| 7    | 3½ m (11 ft)          |                          | 7 8½ m (27 ft)          |
| 8    | 4 m (13 ft)           |                          | 8 9 m (29 ft)           |
| 9    | 4½ m (14 ft)          |                          | 9 9½ m (30½ ft) or more |
| x    | Height not determined |                          |                         |

**Table 6. WIND FORCE CODE**

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

| Code | Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully   | Description     |
|------|---|-----------------|
| 00   | Sea like a mirror   | Calm            |
| 01   | Ripples with the appearance of scales are formed, but without foam crests.  | Light Air       |
| 02   | Small wavelets; crests have a glassy appearance and do not break.   | Light Breeze    |
| 03   | Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.   | Gentle Breeze   |
| 04   | Small waves, becoming longer; fairly frequent white horses.   | Moderate breeze |
| 05   | Moderate waves; many white horses are formed (chance of some spray)   | Fresh Breeze    |
| 06   | Large waves; white foam crests everywhere (probably some spray)   | Strong Breeze   |
| 07   | Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.  | Near Gale       |
| 08   | Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.   | Gale            |
| 09   | High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.  | Strong Gale     |
| 10   | Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.          | Storm           |
| 11   | Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected. | Violent Storm   |
| 12   | Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.  | Hurricane       |

Table 7. PRESENT WEATHER

W.W. CODE

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

| Code figure<br>ww                    |    |   |  |
|--------------------------------------|----|---|--|
| No meteors<br>except<br>photometeors | 00 | Cloud development not observed or not observable  | characteristic<br>change of the<br>state of sky<br>during the<br>past hour   |
|                                      | 01 | Clouds generally dissolving or becoming less developed  |  |
|                                      | 02 | State of sky on the whole unchanged   |  |
| Haze, dust, sand or smoke            | 03 | Clouds generally forming or developing  |  |
|                                      | 04 | Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes   |  |
|                                      | 05 | Haze  |  |
|                                      | 06 | Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation  |  |
|                                      | 07 | Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen       |  |
|                                      | 08 | Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm                |  |
|                                      | 09 | Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour   |  |
|                                      | 10 | Mist  |  |
|                                      | 11 | Patches of  | shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 metres on land or 10 metres at sea                                |
|                                      | 12 | More or less continuous   |  |
|                                      | 13 | Lightning visible, no thunder heard   |  |
|                                      | 14 | Precipitation within sight, not reaching the ground or the surface of the sea   |  |
|                                      | 15 | Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station                                 |  |
|                                      | 16 | Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station  |  |
|                                      | 17 | Thunderstorm, but no precepitation at the time of observation   |  |
|                                      | 18 | Squalls   | at or within sight of the station during the preceding hour or at the time of observation  |
|                                      | 19 | Funnel clouds   |  |
| ww = 20 - 29                         |    |   |  |
|                                      | 20 | Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation   |  |
|                                      | 21 | Drizzle (not freezing) or snow grains   | not falling as<br>shower(s)  |
|                                      | 22 | Rain (not freezing)   |  |
|                                      | 23 | Snow  |  |
|                                      | 24 | Rain and snow or ice pellets, type (a)  |  |
|                                      | 25 | Freezing drizzle or freezing rain   |  |
|                                      | 26 | Shower(s) of rain   |  |
|                                      | 27 | Shower(s) of snow, or of rain and snow  |  |
|                                      | 28 | Shower(s) of hail, or of rain and hail  |  |
|                                      | 29 | Fog or ice fog  |  |
|                                      | 29 | Thunderstorm (with or without precipitation)  |  |
| ww = 30 - 39                         |    |   |  |
|                                      | 30 | Duststorm, sandstorm, drifting or blowing snow  |  |
|                                      | 31 | Slight or moderate duststorm or sandstorm   | - has decreased during the preceding hour<br>- no appreciable change during the preceding hour<br>- has begun or has increased during the preceding hour |
|                                      | 32 |   |  |
|                                      | 33 | Severe duststorm or sandstorm   | - has decreased during the preceding hour<br>- no appreciable change during the preceding hour<br>- has begun or has increased during the preceding hour |
|                                      | 34 |   |  |
|                                      | 35 |   |  |
|                                      | 36 | Slight or moderate blowing snow   | generally low (below eye level)  |
|                                      | 37 | Heavy drifting snow   |  |
|                                      | 38 | Slight or moderate blowing snow   | generally high (above eye level)   |
|                                      | 39 | Heavy blowing snow  |  |
| ww = 40 - 49                         |    |   |  |
|                                      | 40 | Fog or ice fog at the time of observation   |  |
|                                      | 41 | Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer |  |
|                                      | 42 | Fog or ice fog in patches   |  |
|                                      | 43 | Fog or ice fog, sky visible   | has become thinner during the preceding hour   |
|                                      | 44 | Fog or ice fog, sky invisible   |  |
|                                      | 45 | Fog or ice fog, sky visible   | no appreciable change during the preceding hour  |
|                                      | 46 | Fog or ice fog, sky invisible   |  |
|                                      | 47 | Fog or ice fog, sky visible   | has begun or has become thicker during the preceding hour  |
|                                      | 48 | Fog or ice fog, sky invisible   |  |
|                                      | 49 | Fog, depositing rime, sky visible   |  |
|                                      | 49 | Fog, depositing rime, sky invisible   |  |

## NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

## PRECIPITATION ON STATION AT TIME OF OBSERVATION

## ww = 50 - 59 Drizzle

- |    |  |   |                                      |
|----|--|---|--------------------------------------|
| 50 | Drizzle, not freezing, intermittent          | { | slight at time of observation        |
| 51 | Drizzle, not freezing, continuous            |   |                                      |
| 52 | Drizzle, not freezing, intermittent          | { | moderate at time of observation      |
| 53 | Drizzle, not freezing, continuous            |   |                                      |
| 54 | Drizzle, not freezing, intermittent          | { | heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous            |   |                                      |
| 56 | Drizzle, freezing, slight                    |   |                                      |
| 57 | Drizzle, freezing, moderate or heavy (dense) |   |                                      |
| 58 | Drizzle and rain, slight                     |   |                                      |
| 59 | Drizzle and rain, moderate or heavy          |   |                                      |

## ww = 60 - 69 Rain

- |    |   |   |                                 |
|----|---|---|---------------------------------|
| 60 | Rain, not freezing, intermittent            | { | slight at time of observation   |
| 61 | Rain, not freezing, continuous              |   |                                 |
| 62 | Rain, not freezing, intermittent            | { | moderate at time of observation |
| 63 | Rain, not freezing, continuous              |   |                                 |
| 64 | Rain, not freezing, intermittent            | { | heavy at time of observation    |
| 65 | Rain, not freezing, continuous              |   |                                 |
| 66 | Rain, freezing, slight                      |   |                                 |
| 67 | Rain, freezing, moderate or heavy           |   |                                 |
| 68 | Rain or drizzle and snow, slight            |   |                                 |
| 69 | Rain or drizzle and snow, moderate or heavy |   |                                 |

## 70 - 79 Solid precipitation not in showers

- |    |   |   |                                 |
|----|---|---|---------------------------------|
| ww |   |   |                                 |
| 70 | Intermittent fall of snow flakes                      | { | slight at time of observation   |
| 71 | Continuous fall of snow flakes                        |   |                                 |
| 72 | Intermittent fall of snow flakes                      | { | moderate at time of observation |
| 73 | Continuous fall of snow flakes                        |   |                                 |
| 74 | Intermittent fall of snow flakes                      | { | heavy at time of observation    |
| 75 | Continuous fall of snow flakes                        |   |                                 |
| 76 | Ice prisms (with or without fog)                      |   |                                 |
| 77 | Snow grains (with or without fog)                     |   |                                 |
| 78 | Isolated starlike snow crystals (with or without fog) |   |                                 |
| 79 | Ice pellets, type (a)                                 |   |                                 |

## ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

- |    |  |   |   |
|----|--|---|---|
| 80 | Rain shower(s), slight   |   |   |
| 81 | Rain shower(s), moderate or heavy  |   |   |
| 82 | Rain shower(s), violent  |   |   |
| 83 | Shower(s) of rain and snow mixed, slight   |   |   |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy  |   |   |
| 85 | Snow shower(s), slight   |   |   |
| 86 | Snow shower(s), moderate or heavy  |   |   |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain                         | { | - slight  |
| 88 | or rain and snow mixed   |   |   |
| 89 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder      | { | - slight  |
| 90 |  |   |   |
| 91 | Slight rain at time of observation   | { | - moderate or heavy   |
| 92 | Moderate or heavy rain at time of observation  |   |   |
| 93 | Slight snow, or rain and snow mixed or hail at time of observation                               | { | thunderstorm during the preceding hour but not at time of observation |
| 94 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation                    |   |   |
| 95 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | { | thunderstorm at time of observation                                   |
| 96 | Thunderstorm, slight or moderate, with hail at time of observation                               |   |   |
| 97 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation              | { |   |
| 98 | Thunderstorm, combined with duststorm or sandstorm at time of observation                        |   |   |
| 99 | Thunderstorm, heavy, with hail at time of observation  |   |   |

## PRECIPITATION ON STATION AT TIME OF OBSERVATION



Table 8. CLOUD TYPE CODE

| Code | Cloud Type   | Code | Cloud Type             |
|------|--|------|------------------------|
| 0    | Cirrus ..... Ci  | 5    | Nimbostratus ..... Ns  |
| 1    | Cirrocumulus ..... Cc  | 6    | Stratocumulus ..... Sc |
| 2    | Cirrostratus ..... Cs  | 7    | Stratus ..... St       |
| 3    | Alto cumulus ..... Ac  | 8    | Cumulus ..... Cu       |
| 4    | Altostratus ..... As   | 9    | Cumulonimbus ..... Cb  |
| X    | Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena |      |                        |

Table 9. CLOUD AMOUNT CODE

| Code | Cloud Cover                     | Code | Cloud Cover   |
|------|---------------------------------|------|---|
| 0    | 0                               | 6    | 6 oktas   |
| 1    | 1 okta or less,<br>but not zero | 7    | 7 oktas or more,<br>but not 8 oktas                     |
| 2    | 2 oktas                         | 8    | 8 oktas   |
| 3    | 3 oktas                         | 9    | Sky obscured, or<br>cloud amount cannot<br>be estimated |
| 4    | 4 oktas                         |      |   |
| 5    | 5 oktas                         |      |   |

Note: 1 okta =  $\frac{1}{8}$  of the sky covered

Table 10. VISIBILITY

| Code | Estimate of hor. Visibility                              |
|------|--|
| 0    | Less than 50 metres (less than 55 yards)                 |
| 1    | 50-200 metres (approx. 55-220 yards)                     |
| 2    | 200-500 metres (approx. 220-550 yards)                   |
| 3    | 500-1,000 metres (approx. 550 yards- $\frac{1}{2}$ n.m.) |
| 4    | 1-2 km (approx. $\frac{3}{4}$ -1 n.m.)                   |
| 5    | 2-4 km (approx. 1-2 n.m.)                                |
| 6    | 4-10 km (approx. 2-6 n.m.)                               |
| 7    | 10-20 km (approx. 6-12 n.m.)                             |
| 8    | 20-50 km (approx. 12-30 n.m.)                            |
| 9    | 50 km or more (30 n.m. or more)                          |

Note: n.m. = nautical mile

TABLE 11. INSTITUTE CODE

| Code | Institute   |
|------|---|
| 01   | Marine Ecology Laboratory, Bedford Institute                |
| 02   | Pacific Oceanographic Group                                 |
| 03   | Biological Station, St. Andrews, N.B.                       |
| 04   | Arctic Biological Station, Ste. Anne de Bellevue, P.Q.      |
| 05   | Biological Station, St. John's Nfld.                        |
| 06   | Station de Biologie Marine, Grande Riviere, P.Q.            |
| 07   | Marine Sciences Branch, Central Region                      |
| 08   | Defence Research Establishment, Atlantic                    |
| 09   | Defence Research Establishment, Pacific                     |
| 10   | Atlantic Oceanographic Laboratory, Bedford Institute        |
| 11   | Polar Continental Shelf Project                             |
| 12   | Great Lakes Institute                                       |
| 13   | Institute of Oceanography, University of British Columbia   |
| 14   | Institute of Oceanography, Dalhousie University             |
| 15   | Marine Sciences Branch, Pacific Region                      |
| 16   | Department of Transport                                     |
| 17   | Marine Sciences Centre, McGill University                   |
| 18   | Canadian Forces Maritime Command, East Coast                |
| 19   | Canadian Forces Maritime Command, West Coast                |
| 20   | Ontario Water Resources Commission                          |
| 21   | Dept. of National Health and Welfare                        |
| 22   | Inland Waters Branch, Dept. of Energy, Mines and Resources. |

### SECTION III

Serial oceanographic data



GENERAL INFORMATION

|   |   |
|---|---|
| <u>Institute:</u>                         | Pacific Oceanographic Group,<br>Nanaimo, B.C. |
| <u>Observation platform:</u>              | CCGS "Vancouver"                              |
| <u>Vessel's cruising speed:</u>           | 18 knots                                      |
| <u>Total number of stations occupied:</u> | 25  |
| <u>Anemometer height above sea level:</u> | 19 metres                                     |
| <u>Water transparency:</u>                | Secchi Disc                                   |
| <u>Barometer readings:</u>                | Aneroid Barometer (corrected)                 |
| <u>Air temperature:</u>                   | Sling Psychrometer                            |
| <u>Wet bulb temperature:</u>              | Sling Psychrometer                            |
| <u>Surface sea water temperature:</u>     | Reversing thermometer                         |
| <u>Depth to bottom:</u>                   | U.S. Coast & Geodetic Survey<br>Chart 8500    |

The following Standard Deviations were used to express both measurement and interpolation error estimates:

|             |       |
|-------------|-------|
| Temperature | 0.02  |
| Salinity    | 0.003 |
| Oxygen      | 0.03  |





C-REF-NO 005 YR 1967 DEPTH 4023 WAVES 1 2725 AIR T 11.4 VIS 7  
 CONS. NO 001 MONTH 7 MXSAMPD 05 WAVES 2 2725 WLT B 10.6 STN 301  
 LAT 50-01 N DAY 06 NO.DPTH 15 WND-DIR 270 WW-CJIE  
 LON 145-06 W HR 01.8 W-COLOR 10 WND-SPD 08 CLD-TPE 7  
 MARSD SQ 195 C/I 1802 W-TRNSP 14 BARO 1018.5 CLD-AMT 8 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 018 | 0000  | 1091 B  | 32498 | 665    | 2487 | 14905 |
| 018 | 0010  | 1088    | 32502 | 671    | 2488 | 14905 |
| 018 | 0020  | 1088    | 32509 | 672    | 2488 | 14907 |
| 018 | 0030  | 0736    | 32635 | 754    | 2553 | 14779 |
| 018 | 0050  | 0650    | 32671 | 726    | 2567 | 14748 |
| 018 | 0075  | 0519    | 32726 | 726    | 2588 | 14700 |
| 018 | 0100  | 0488    | 32721 | 722    | 2591 | 14691 |
| 018 | 0125  | 0472    | 32776 | 707    | 2597 | 14689 |
| 018 | 0150  | 0454    | 33277 | 531    | 2638 | 14693 |
| 018 | 0175  | 0426    | 33591 | 423    | 2666 | 14689 |
| 018 | 0200  | 0398    | 33703 | 340    | 2678 | 14683 |
| 018 | 0250  | 0374    | 33764 | 258    | 2685 | 14682 |
| 018 | 0300  | 0363    | 33845 | 203    | 2693 | 14687 |
| 018 | 0400  | 0351    | 33971 | 124    | 2704 | 14700 |
| 018 | 0500  | 0352    |       | 089    |      |       |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|---------|------|
| 0000  | 1091 B  | 32498  | 665    | 2487 | 14905 | 0000    | 00000   | 3093 |
| 0010  | 1088    | 32502  | 671    | 2488 | 14905 | 0031    | 00002   | 3088 |
| 0020  | 1088    | 32509  | 672    | 2488 | 14907 | 0062    | 00006   | 3084 |
| 0030  | 0736    | 32635  | 754    | 2553 | 14779 | 0090    | 00013   | 2466 |
| 0050  | 0650    | 32671  | 726    | 2567 | 14748 | 0138    | 00033   | 2332 |
| 0075  | 0519    | 32726  | 726    | 2588 | 14700 | 0195    | 00069   | 2141 |
| 0100  | 0488    | 32721  | 722    | 2591 | 14691 | 0248    | 00117   | 2113 |
| 0125  | 0472    | 32776  | 707    | 2597 | 14689 | 0301    | 00177   | 2057 |
| 0150  | 0454    | 33277  | 531    | 2638 | 14693 | 0347    | 00243   | 1665 |
| 0175  | 0426    | 33591  | 423    | 2666 | 14689 | 0386    | 00307   | 1402 |
| 0200  | 0398    | 33703  | 340    | 2678 | 14683 | 0420    | 00372   | 1292 |
| 0225  | 0383    | 3375 C | 290    | 2683 | 14681 | 0452    | 00442   | 1246 |
| 0250  | 0374    | 33764  | 258    | 2685 | 14682 | 0483    | 00518   | 1226 |
| 0300  | 0363    | 33845  | 203    | 2693 | 14687 | 0543    | 00687   | 1158 |
| 0400  | 0351    | 33971  | 124    | 2704 | 14700 | 0655    | 01087   | 1059 |
| 0500  | 0352    |        | 089    |      |       |         |         |      |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH C 4206 | WAVES 1 2822 | AIR T 10.0 | VIS 8   |
| CONS. NO 002 | MONTH 7  | MXSAMPD 42   | WAVES 2 2633 | WET B 09.3 | STM 302 |
| LAT 49-59 N  | DAY 07   | NO.DPTH 32   | WND-DIR 280  | WW-CODE 01 |         |
| LON 144-51 W | HR 19.6  | W-COLOR 00   | WND-SPD 09   | CLD-TPE 6  |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP 14   | BARO 1017.7  | CLD-AMT 7  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 196 | 0000  | 1086    | 32510 | 652    | 2488 | 14903 |
| 196 | 0010  | 1083    | 32518 | 660    | 2490 | 14904 |
| 196 | 0020  | 1083    | 32513 | 660    | 2489 | 14905 |
| 196 | 0030  | 0963    | 32573 | 702    | 2514 | 14864 |
| 196 | 0050  | 0673    | 32641 | 733    | 2562 | 14757 |
| 196 | 0075  | 0532    | 32723 | 718    | 2586 | 14705 |
| 196 | 0100  | 0514    | 32730 | 691    | 2588 | 14702 |
| 196 | 0125  | 0495    | 32729 | 717    | 2591 | 14698 |
| 196 | 0150  | 0487    | 33196 | 574    | 2628 | 14705 |
| 196 | 0175  | 0482    | 33557 | 465    | 2657 | 14712 |
| 196 | 0200  | 0468    | 33729 | 372    | 2673 | 14713 |
| 196 | 0250  | 0397    | 33756 | 293    | 2682 | 14692 |
| 196 | 0300  | 0367    | 33812 | 212    | 2690 | 14688 |
| 196 | 0400  | 0354    | 33955 | 132    | 2702 | 14701 |
| 196 | 0500  | 0352    | 34060 | 089 B  | 2711 | 14718 |
| 196 | 0600  | 0345    | 34155 | 068    | 2719 | 14733 |
| 206 | 0800  | 0326    | 34301 | 062    | 2733 | 14760 |
| 206 | 1000  | 0299    | 34382 | 058    | 2741 | 14783 |
| 206 | 1200  | 0272 B  | 34443 | 053    | 2749 | 14806 |
| 206 | 1500  | 0233    | 34510 | 070    | 2757 | 14840 |
| 221 | 2700  | 0168    | 34640 | 223    | 2773 | 15018 |
| 221 | 2900  | 0161    | 34651 |        | 2774 | 15050 |
| 221 | 3000  | 0160    | 34645 | 248    | 2774 | 15067 |
| 221 | 3100  | 0159 B  | 34662 | 268    | 2775 | 15084 |
| 221 | 3300  | 0156    | 34664 | 295    | 2776 | 15118 |
| 221 | 3500  | 0152    | 34676 | 301    | 2777 | 15151 |
| 221 | 3600  | 0150 B  | 34673 | 305    | 2777 | 15168 |
| 221 | 3800  | 0152 B  | 34677 | 320    | 2777 | 15204 |
| 221 | 3900  | 0152    | 34677 | 324    | 2777 | 15221 |
| 221 | 4000  | 0152    | 34683 | 324    | 2778 | 15239 |
| 221 | 4100  | 0153    | 34682 | 324    | 2777 | 15257 |
| 221 | 4200  | 0152 B  | 34686 | 328    | 2778 | 15275 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|---------|------|
| 0000  | 1086    | 32510 | 652    | 2488 | 14903 | 0000    | 00000   | 3076 |
| 0010  | 1083    | 32518 | 660    | 2490 | 14904 | 0031    | 00002   | 3067 |
| 0020  | 1083    | 32513 | 660    | 2489 | 14905 | 0062    | 00006   | 3073 |
| 0030  | 0963    | 32573 | 702    | 2514 | 14864 | 0091    | 00014   | 2838 |

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|---------|------|
| 0050  | 0673    | 32641  | 733    | 2562 | 14757 | 0144    | 00035   | 2383 |
| 0075  | 0532    | 32723  | 718    | 2586 | 14705 | 0201    | 00071   | 2157 |
| 0100  | 0514    | 32730  | 691    | 2588 | 14702 | 0255    | 00120   | 2135 |
| 0125  | 0495    | 32729  | 717    | 2591 | 14698 | 0309    | 00181   | 2117 |
| 0150  | 0487    | 33196  | 574    | 2628 | 14705 | 0357    | 00250   | 1761 |
| 0175  | 0482    | 33557  | 465    | 2657 | 14712 | 0398    | 00317   | 1487 |
| 0200  | 0468    | 33729  | 372    | 2673 | 14713 | 0434    | 00386   | 1346 |
| 0225  | 0434 B  | 3377 F | 324 B  | 2679 | 14703 | 0467    | 00458   | 1283 |
| 0250  | 0397    | 33756  | 293    | 2682 | 14692 | 0499    | 00536   | 1255 |
| 0300  | 0367    | 33812  | 212    | 2690 | 14688 | 0561    | 00709   | 1187 |
| 0400  | 0354    | 33955  | 132    | 2702 | 14701 | 0675    | 01117   | 1074 |
| 0500  | 0352    | 34060  | 089 B  | 2711 | 14718 | 0780    | 01599   | 1001 |
| 0600  | 0345    | 34155  | 068    | 2719 | 14733 | 0877    | 02149   | 0930 |
| 0700  | 0336    | 34236  | 062    | 2726 | 14747 | 0968    | 02755   | 0868 |
| 0800  | 0326    | 34301  | 062    | 2733 | 14760 | 1053    | 03410   | 0816 |
| 1000  | 0299    | 34382  | 058    | 2741 | 14783 | 1211    | 04860   | 0739 |
| 1200  | 0272 B  | 34443  | 053    | 2749 | 14806 | 1354    | 06478   | 0677 |
| 1500  | 0233    | 34510  | 070    | 2757 | 14840 | 1548    | 09159   | 0599 |
| 2000  | 0197 C  | 3460 D | 131 C  | 2767 | 14911 | 1831    | 14214   | 0515 |
| 2500  | 0173 C  | 3464 D | 196 B  | 2773 | 14986 | 2082    | 20017   | 0471 |
| 3000  | 0160    | 34645  | 248    | 2774 | 15067 | 2322    | 26818   | 0467 |
| 3500  | 0152    | 34676  | 301    | 2777 | 15151 | 2556    | 34677   | 0448 |
| 4000  | 0152    | 34683  | 324    | 2778 | 15239 | 2788    | 43693   | 0457 |

C-REF-NU 005 YR 1967 DEPTH C 4206 WAVES 1 272X AIR T 11.0 VIS 5  
 CONS. NO 003 MONTH 7 MXSAMPD 28 WAVES 2 XX WET B 10.6 STN 303  
 LAT 50-05 N DAY 08 NO.DPTH 12 WND-DIR 270 WW-CODE 10  
 LON 144-49 W HR 21.0 W-COLOR 10 WND-SPD 09 CLD-TPE 7  
 MARSD SQ 195 C/I 1802 W-TRNSP 12 BARO 1018.2 CLD-AMT 7 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 210 | 0800  | 0326    | 34303 | 090    | 2733 | 14760 |
| 210 | 1000  | 0297    | 34373 | 047    | 2741 | 14782 |
| 210 | 1200  | 0265 B  | 34437 | 050    | 2749 | 14802 |
| 210 | 1500  | 0235    | 34507 | 072    | 2757 | 14841 |
| 210 | 1700  | 0217    | 34535 | 091    | 2761 | 14867 |
| 210 | 1900  | 0203    | 34567 | 117    | 2764 | 14896 |
| 210 | 2000  | 0196    | 34572 | 133    | 2765 | 14910 |
| 210 | 2100  | 0191    | 34591 | 150    | 2767 | 14925 |
| 210 | 2300  | 0182    | 34609 | 162 B  | 2769 | 14955 |
| 210 | 2500  | 0175    | 34626 | 196    | 2771 | 14987 |
| 210 | 2700  | 0169 B  | 34643 | 222    | 2773 | 15019 |
| 210 | 2800  | 0165    | 34648 | 231    | 2774 | 15034 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|---------|------|
| 0800  | 0326    | 34303 | 090    | 2733 | 14760 | 1053    | 03409   | 0814 |
| 1000  | 0297    | 34373 | 047    | 2741 | 14782 | 1211    | 04862   | 0744 |
| 1200  | 0265 B  | 34437 | 050    | 2749 | 14802 | 1354    | 06480   | 0673 |
| 1500  | 0235    | 34507 | 072    | 2757 | 14841 | 1549    | 09166   | 0604 |
| 2000  | 0196    | 34572 | 133    | 2765 | 14910 | 1837    | 14327   | 0532 |
| 2500  | 0175    | 34626 | 196    | 2771 | 14987 | 2096    | 20513   | 0485 |



C-REF-NO 005 YR 1967 DEPTH C 4206 WAVES 1 2923 AIR T 11.2 VIS 7  
 CONS. NO 004 MONTH 7 MXSAMPD 05 WAVES 2 3123 WET B 10.1 STN 304  
 LAT 50-00 N DAY 10 NO.DPTH 15 WND-DIR 290 WW-CODE 02  
 LON 144-52 W HR 19.8 W-COLOR 00 WND-SPD 10 CLD-TPE 6  
 MARSD SQ 195 C/I 1802 W-TRNSP 12 BARO 1014.5 CLD-AMT 8 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 198 | 0000  | 1106 B  | 32509 | 644    | 2485 | 14910 |
| 198 | 0010  | 1104    | 32502 | 647    | 2485 | 14911 |
| 198 | 0020  | 1105    | 32505 | 648    | 2485 | 14913 |
| 198 | 0030  | 1090    | 32516 | 650    | 2488 | 14910 |
| 198 | 0050  | 0688    | 32673 | 715    | 2563 | 14763 |
| 198 | 0075  | 0540    | 32724 | 712    | 2585 | 14709 |
| 198 | 0100  | 0512    | 32725 | 706    | 2588 | 14701 |
| 198 | 0125  | 0491    | 32726 | 706    | 2591 | 14697 |
| 198 | 0150  | 0492    | 33081 | 597    | 2619 | 14706 |
| 198 | 0175  | 0468 B  | 33554 | 449    | 2659 | 14706 |
| 198 | 0200  | 0446    | 33683 | 380    | 2671 | 14703 |
| 198 | 0250  | 0415    | 33766 | 294    | 2681 | 14699 |
| 198 | 0300  | 0369    | 33807 | 219    | 2689 | 14689 |
| 198 | 0400  | 0354    | 33960 | 129    | 2703 | 14701 |
| 198 | 0500  | 0352    | 34079 | 081    | 2712 | 14718 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 1106 B  | 32509  | 644    | 2485 | 14910 | 0000    | 00000  | 3111 |
| 0010  | 1104    | 32502  | 647    | 2485 | 14911 | 0031    | 00002  | 3114 |
| 0020  | 1105    | 32505  | 648    | 2485 | 14913 | 0063    | 00006  | 3116 |
| 0030  | 1090    | 32516  | 650    | 2488 | 14910 | 0094    | 00014  | 3085 |
| 0050  | 0688    | 32673  | 715    | 2563 | 14763 | 0149    | 00036  | 2378 |
| 0075  | 0540    | 32724  | 712    | 2585 | 14709 | 0206    | 00072  | 2166 |
| 0100  | 0512    | 32725  | 706    | 2588 | 14701 | 0260    | 00121  | 2136 |
| 0125  | 0491    | 32726  | 706    | 2591 | 14697 | 0314    | 00183  | 2115 |
| 0150  | 0492    | 33081  | 597    | 2619 | 14706 | 0364    | 00253  | 1852 |
| 0175  | 0468 B  | 33554  | 449    | 2659 | 14706 | 0405    | 00322  | 1474 |
| 0200  | 0446    | 33683  | 380    | 2671 | 14703 | 0441    | 00390  | 1357 |
| 0225  | 0430    | 3374 C | 332    | 2678 | 14701 | 0475    | 00463  | 1298 |
| 0250  | 0415    | 33766  | 294    | 2681 | 14699 | 0507    | 00542  | 1266 |
| 0300  | 0369    | 33807  | 219    | 2689 | 14689 | 0569    | 00717  | 1193 |
| 0400  | 0354    | 33960  | 129    | 2703 | 14701 | 0683    | 01124  | 1070 |
| 0500  | 0352    | 34079  | 081    | 2712 | 14718 | 0787    | 01602  | 0987 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH C 4206 | WAVES 1 2821 | AIR T 12.0 | VIS 7   |
| CONS. NO 005 | MONTH 7  | MXSAMPD 20   | WAVES 2 2622 | WET B 10.6 | STN 305 |
| LAT 50-02 N  | DAY 12   | NO.DPTH 21   | WNE-DIR 280  | WW-CODE 03 |         |
| LON 145-02 W | HR 19.7  | W-COLOR 00   | WNL-SPD 07   | CLD-TPE 6  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 12   | BARO 1014.1  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 197 | 0000  | 1108 B  | 32490 | 647    | 2483 | 14911 |
| 197 | 0010  | 1106    | 32485 | 649    | 2483 | 14912 |
| 197 | 0020  | 1104    | 32491 | 649    | 2484 | 14913 |
| 197 | 0030  | 0879 B  | 32574 | 711    | 2527 | 14833 |
| 197 | 0050  | 0668    | 32668 | 713    | 2565 | 14755 |
| 197 | 0075  | 0527    | 32719 | 711    | 2586 | 14703 |
| 197 | 0100  | 0506 B  | 32729 | 710    | 2589 | 14699 |
| 197 | 0125  | 0480    | 32756 | 699    | 2594 | 14692 |
| 197 | 0150  | 0453 B  | 33197 | 550    | 2632 | 14691 |
| 197 | 0175  | 0431    | 33590 | 412    | 2666 | 14691 |
| 197 | 0200  | 0412    | 33692 | 347    | 2676 | 14689 |
| 197 | 0250  | 0380    | 33766 | 262    | 2685 | 14685 |
| 197 | 0300  | 0363    | 33833 | 194 F  | 2692 | 14687 |
| 197 | 0400  | 0351    | 33968 | 118    | 2704 | 14700 |
| 197 | 0500  | 0351    | 34092 | 078 B  | 2714 | 14718 |
| 204 | 0600  | 0350    | 34193 | 070    | 2722 | 14725 |
| 204 | 0800  | 0320    | 34312 | 057    | 2734 | 14758 |
| 204 | 1000  | 0289 B  | 34391 | 056    | 2743 | 14779 |
| 204 | 1200  | 0261    | 34446 | 059    | 2750 | 14801 |
| 204 | 1500  | 0228    | 34516 | 076    | 2758 | 14838 |
| 204 | 2000  | 0194    | 34590 | 130    | 2767 | 14909 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|---------|------|
| 0000  | 1108 B  | 32490  | 647    | 2483 | 14911 | 0000    | 00000   | 3128 |
| 0010  | 1106    | 32485  | 649    | 2483 | 14912 | 0031    | 00002   | 3130 |
| 0020  | 1104    | 32491  | 649    | 2484 | 14913 | 0063    | 00006   | 3125 |
| 0030  | 0879 B  | 32574  | 711    | 2527 | 14833 | 0092    | 00014   | 2710 |
| 0050  | 0668    | 32668  | 713    | 2565 | 14755 | 0143    | 00034   | 2356 |
| 0075  | 0527    | 32719  | 711    | 2586 | 14703 | 0200    | 00070   | 2155 |
| 0100  | 0506 B  | 32729  | 710    | 2589 | 14699 | 0254    | 00119   | 2127 |
| 0125  | 0480    | 32756  | 699    | 2594 | 14692 | 0307    | 00180   | 2081 |
| 0150  | 0453 B  | 33197  | 550    | 2632 | 14691 | 0355    | 00247   | 1724 |
| 0175  | 0431    | 33590  | 412    | 2666 | 14691 | 0394    | 00312   | 1408 |
| 0200  | 0412    | 33692  | 347    | 2676 | 14689 | 0429    | 00378   | 1314 |
| 0225  | 0395    | 3374 B | 300    | 2681 | 14686 | 0461    | 00449   | 1263 |
| 0250  | 0380    | 33766  | 262    | 2685 | 14685 | 0492    | 00525   | 1231 |
| 0300  | 0363    | 33833  | 194 B  | 2692 | 14687 | 0553    | 00696   | 1167 |
| 0400  | 0351    | 33968  | 118    | 2704 | 14700 | 0665    | 01097   | 1061 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|---------|------|
| 0500  | 0351    | 34092 | 078 B  | 2714 | 14718 | 0768    | 01571   | 0976 |
| 0600  | 0350    | 34193 | 070    | 2722 | 14735 | 0863    | 02107   | 0907 |
| 0700  | 0337    | 34262 | 063    | 2728 | 14748 | 0952    | 02699   | 0850 |
| 0800  | 0320    | 34312 | 057    | 2734 | 14758 | 1036    | 03341   | 0801 |
| 1000  | 0289 B  | 34391 | 056    | 2743 | 14779 | 1190    | 04760   | 0722 |
| 1200  | 0261    | 34446 | 059    | 2750 | 14801 | 1330    | 06342   | 0662 |
| 1500  | 0228    | 34516 | 076    | 2758 | 14838 | 1520    | 08973   | 0589 |
| 2000  | 0194    | 34590 | 130    | 2767 | 14909 | 1801    | 13995   | 0517 |

C-REF-NO 005 YR 1967 DEPTH C 4206 WAVES 1 3520 AIR T 11.7 VIS 7  
 CONS. NO 006 MONTH 7 MXSAMPD 05 WAVES 2 3472 WET B 10.7 STN 306  
 LAT 49-59 N DAY 14 NO.DPTH 15 WNL-DIR 350 WW-CODE 02  
 LON 145-03 W HR 19.8 W-COLOR 00 WND-SPD 04 CLD-TPE 6  
 MARSD SQ 159 C/I 1802 W-TRNSP 14 BARO 1022.1 CLD-AMT 7 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 198 | 0000  | 1121 B  | 32481 | 649    | 2480 | 14915 |
| 198 | 0010  | 1116    | 32481 | 649    | 2481 | 14915 |
| 198 | 0020  | 1109 B  | 32479 | 648    | 2482 | 14914 |
| 198 | 0030  | 0756    | 32636 | 737    | 2550 | 14786 |
| 198 | 0050  | 0596    | 32693 | 716    | 2576 | 14727 |
| 198 | 0075  | 0522    | 32730 | 709    | 2588 | 14701 |
| 198 | 0100  | 0505    | 32727 | 707    | 2589 | 14698 |
| 198 | 0125  | 0493    | 32801 | 683    | 2596 | 14698 |
| 198 | 0150  | 0471    | 33256 | 536    | 2635 | 14699 |
| 198 | 0175  | 0433    | 33582 | 423    | 2665 | 14692 |
| 198 | 0200  | 0405    | 33691 | 337    | 2676 | 14686 |
| 198 | 0250  | 0376    | 33770 | 251    | 2685 | 14683 |
| 198 | 0300  | 0362    | 33855 | 181    | 2694 | 14686 |
| 198 | 0400  | 0350    | 33995 | 111    | 2706 | 14700 |
| 198 | 0500  | 0350    | 34101 | 076    | 2714 | 14718 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|---------|------|
| 0000  | 1121 B  | 32481  | 649    | 2480 | 14915 | 0000    | 00000   | 3157 |
| 0010  | 1116    | 32481  | 649    | 2481 | 14915 | 0032    | 00002   | 3150 |
| 0020  | 1109 B  | 32479  | 648    | 2482 | 14914 | 0063    | 00006   | 3142 |
| 0030  | 0756    | 32636  | 737    | 2550 | 14786 | 0092    | 00014   | 2491 |
| 0050  | 0596    | 32693  | 716    | 2576 | 14727 | 0139    | 00033   | 2250 |
| 0075  | 0522    | 32730  | 709    | 2588 | 14701 | 0195    | 00068   | 2141 |
| 0100  | 0505    | 32727  | 707    | 2589 | 14698 | 0248    | 00116   | 2127 |
| 0125  | 0493    | 32801  | 683    | 2596 | 14698 | 0301    | 00177   | 2061 |
| 0150  | 0471    | 33256  | 536    | 2635 | 14699 | 0348    | 00243   | 1699 |
| 0175  | 0433    | 33582  | 423    | 2665 | 14692 | 0388    | 00308   | 1416 |
| 0200  | 0405    | 33691  | 337    | 2676 | 14686 | 0422    | 00374   | 1308 |
| 0225  | 0387    | 3374 C | 286 B  | 2682 | 14683 | 0454    | 00444   | 1254 |
| 0250  | 0376    | 33770  | 251    | 2685 | 14683 | 0486    | 00521   | 1224 |
| 0300  | 0362    | 33855  | 181    | 2694 | 14686 | 0545    | 00689   | 1150 |
| 0400  | 0350    | 33995  | 111    | 2706 | 14700 | 0656    | 01084   | 1040 |
| 0500  | 0350    | 34101  | 076    | 2714 | 14718 | 0757    | 01551   | 0968 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH C 4206 | WAVES 1 3324 | AIR T 10.9 | VIS 7   |
| CONS. NO 007 | MONTH 7  | MXSAMPD 42   | WAVES 2 XX   | WET B 09.7 | STN 307 |
| LAT 50-01 N  | DAY 15   | NO.DPTH 12   | WND-DIR 330  | WW-CODE 02 |         |
| LON 145-00 W | HR 21.0  | W-COLOR 00   | WND-SPD 09   | CLD-TPE 6  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 13   | BARO 1026.7  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 210 | 1900  | 0203 B  | 34568 | 116    | 2765 | 14896 |
| 210 | 2000  | 0193 B  | 34587 | 131    | 2767 | 14908 |
| 210 | 2500  | 0174    | 34630 | 196    | 2772 | 14986 |
| 210 | 2900  | 0161    | 34650 | 244    | 2774 | 15050 |
| 210 | 3000  | 0159    | 34654 | 252    | 2775 | 15067 |
| 210 | 3100  | 0157    | 34662 | 267    | 2776 | 15083 |
| 210 | 3500  | 0152    | 34676 | 300    | 2777 | 15151 |
| 210 | 3800  | 0152    | 34679 | 315    | 2777 | 15204 |
| 210 | 3900  | 0153 B  | 34679 | 317    | 2777 | 15232 |
| 210 | 4000  | 0151    | 34678 | 322    | 2777 | 15239 |
| 210 | 4100  | 0152    | 34685 | 323    | 2778 | 15257 |
| 210 | 4200  | 0152 B  | 34678 | 329    | 2777 | 15274 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 2000  | 0193 B  | 34587 | 131    | 2767 | 14909 | 1801    | 14056  | 0518 |
| 2500  | 0174    | 34630 | 196    | 2772 | 14986 | 2056    | 19938  | 0481 |
| 3000  | 0159    | 34654 | 252    | 2775 | 15067 | 2296    | 26744  | 0459 |
| 3500  | 0152    | 34676 | 300    | 2777 | 15151 | 2528    | 34541  | 0448 |
| 4000  | 0151    | 34678 | 322    | 2777 | 15239 | 2760    | 43578  | 0459 |



|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH C 4206 | WAVES 1 3123 | AIR T 12.5 | VIS 8   |
| CONS. NO 008 | MONTH 7  | MXSAMPD 05   | WAVES 2 2933 | WET B 10.8 | STN 308 |
| LAT 50-01 N  | DAY 17   | NO.DPTH 15   | WND-DIR 310  | WW-CODE 02 |         |
| LON 145-02 W | HR 20.0  | W-COLOR 00   | WND-SPD 10   | CLD-TPE 6  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 12   | BARO 1010.5  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 200 | 0000  | 1135 B  | 32491 | 654    | 2478 | 14920 |
| 200 | 0010  | 1133    | 32488 | 657    | 2478 | 14921 |
| 200 | 0020  | 0758    | 32637 | 745    | 2550 | 14785 |
| 200 | 0030  | 0687    | 32646 | 727    | 2561 | 14759 |
| 200 | 0050  | 0595    | 32701 | 720    | 2577 | 14727 |
| 200 | 0075  | 0522    | 32736 | 718    | 2588 | 14701 |
| 200 | 0100  | 0503 C  | 32728 | 714    | 2590 | 14697 |
| 200 | 0125  | 0490    | 32808 | 687    | 2597 | 14697 |
| 200 | 0150  | 0474    | 33432 | 496    | 2648 | 14703 |
| 200 | 0175  | 0421    | 33664 | 384    | 2673 | 14688 |
| 200 | 0200  | 0403    | 33673 | 336    | 2675 | 14685 |
| 200 | 0250  | 0373 B  | 33787 | 240    | 2687 | 14682 |
| 200 | 0300  | 0362    | 33850 | 183    | 2693 | 14686 |
| 200 | 0400  | 0351    | 33991 | 113    | 2705 | 14700 |
| 200 | 0500  | 0351    | 34095 | 078    | 2714 | 14718 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|---------|------|
| 0000  | 1135 B  | 32491  | 654    | 2478 | 14920 | 0000    | 00000   | 3173 |
| 0010  | 1133    | 32488  | 657    | 2478 | 14921 | 0032    | 00002   | 3174 |
| 0020  | 0758    | 32637  | 745    | 2550 | 14785 | 0060    | 00006   | 2492 |
| 0030  | 0687    | 32646  | 727    | 2561 | 14759 | 0085    | 00012   | 2394 |
| 0050  | 0595    | 32701  | 720    | 2577 | 14727 | 0132    | 00031   | 2243 |
| 0075  | 0522    | 32736  | 718    | 2588 | 14701 | 0187    | 00066   | 2137 |
| 0100  | 0503 C  | 32728  | 714    | 2590 | 14697 | 0240    | 00114   | 2124 |
| 0125  | 0490    | 32808  | 687    | 2597 | 14697 | 0293    | 00175   | 2053 |
| 0150  | 0474    | 33432  | 496    | 2648 | 14703 | 0339    | 00239   | 1570 |
| 0175  | 0421    | 33664  | 384    | 2673 | 14688 | 0375    | 00299   | 1343 |
| 0200  | 0403    | 33673  | 336    | 2675 | 14685 | 0409    | 00364   | 1320 |
| 0225  | 0386    | 3373 C | 286    | 2681 | 14683 | 0441    | 00435   | 1266 |
| 0250  | 0373 B  | 33787  | 240    | 2687 | 14682 | 0473    | 00511   | 1208 |
| 0300  | 0362    | 33850  | 183    | 2693 | 14686 | 0532    | 00679   | 1153 |
| 0400  | 0351    | 33991  | 113    | 2705 | 14700 | 0643    | 01074   | 1044 |
| 0500  | 0351    | 34095  | 078    | 2714 | 14718 | 0745    | 01544   | 0974 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH C 4206 | WAVES 1 00X0 | AIR T 12.4 | VIS 6   |
| CONS. NO 009 | MONTH 7  | MXSAMPD 05   | WAVES 2 2922 | WET B 11.5 | STN 309 |
| LAT 50-01 N  | DAY 19   | NO.DPTH 15   | WND-DIR CALM | WW-CODE 10 |         |
| LON 144-57 W | HR 19.6  | W-COLOR 00   | WND-SPD 00   | CLD-TPE 8  |         |
| MARSD SQ 195 | C/I 1802 | W-TRNSP 13   | BARO 1017.7  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 196 | 0000  | 1177 B  | 32512 | 652    | 2472 | 14935 |
| 196 | 0010  | 1158 B  | 32488 | 652    | 2474 | 14930 |
| 196 | 0020  | 1141 B  | 32492 | 654    | 2477 | 14926 |
| 196 | 0030  | 0757    | 32646 | 743    | 2551 | 14787 |
| 196 | 0050  | 0631    | 32672 | 720    | 2570 | 14741 |
| 196 | 0075  | 0515    | 32699 | 714    | 2586 | 14698 |
| 196 | 0100  | 0508 B  | 32721 | 713    | 2588 | 14699 |
| 196 | 0125  | 0501    | 32821 | 683    | 2597 | 14702 |
| 196 | 0150  | 0499 B  | 33307 | 539    | 2636 | 14712 |
| 196 | 0175  | 0446    | 33666 | 394    | 2670 | 14699 |
| 196 | 0200  | 0411    | 33714 | 333    | 2678 | 14689 |
| 196 | 0250  | 0374    | 33777 |        | 2686 | 14682 |
| 196 | 0300  | 0362    | 33845 | 183    | 2693 | 14686 |
| 196 | 0400  | 0352    | 33972 | 116    | 2704 | 14700 |
| 196 | 0500  | 0350    | 34091 | 082    | 2714 | 14718 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|---------|------|
| 0000  | 1177 B  | 32512 | 652    | 2472 | 14935 | 0000    | 00000   | 3230 |
| 0010  | 1158 B  | 32488 | 652    | 2474 | 14930 | 0032    | 00002   | 3217 |
| 0020  | 1141 B  | 32492 | 654    | 2477 | 14926 | 0065    | 00007   | 3187 |
| 0030  | 0757    | 32646 | 743    | 2551 | 14787 | 0093    | 00014   | 2485 |
| 0050  | 0631    | 32672 | 720    | 2570 | 14741 | 0141    | 00033   | 2308 |
| 0075  | 0515    | 32699 | 714    | 2586 | 14698 | 0198    | 00069   | 2157 |
| 0100  | 0508 B  | 32721 | 713    | 2588 | 14699 | 0252    | 00118   | 2135 |
| 0125  | 0501    | 32821 | 683    | 2597 | 14702 | 0304    | 00178   | 2055 |
| 0150  | 0499 B  | 33307 | 539    | 2636 | 14712 | 0351    | 00244   | 1691 |
| 0175  | 0446    | 33666 | 394    | 2670 | 14699 | 0390    | 00308   | 1367 |
| 0200  | 0411    | 33714 | 333    | 2678 | 14689 | 0424    | 00372   | 1297 |
| 0225  | 0388    | 33748 | 285    | 2683 | 14684 | 0456    | 00442   | 1250 |
| 0250  | 0374    | 33777 | 243    | 2686 | 14682 | 0487    | 00518   | 1216 |
| 0300  | 0362    | 33845 | 183    | 2693 | 14686 | 0547    | 00687   | 1157 |
| 0400  | 0352    | 33972 | 116    | 2704 | 14700 | 0658    | 01086   | 1059 |
| 0500  | 0350    | 34091 | 082    | 2714 | 14718 | 0761    | 01559   | 0976 |

C-REF-NO 005 YR 1967 DEPTH C 4206 WAVES 1 2721 AIR T 12.7 VIS 7  
 CONS. NO 010 MONTH 7 MXSAMPD 27 WAVES 2 2722 WET B 12.0 STV 310  
 LAT 49-59 N DAY 21 NO.DPTH 20 WND-DIR 270 WW-CODE 02  
 LON 145-01 W HR 19.4 W-COLOR 00 WND-SPD 06 CLD-TPE 7  
 MARSD SQ 159 C/I 1802 W-TRNSP 09 BARO 1027.5 CLD-AMT 8 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 194 | 0000  | 1187 B  | 32492 | 659    | 2469 | 14939 |
| 194 | 0010  | 1188 B  | 32498 | 658    | 2469 | 14941 |
| 194 | 0020  | 1153    | 32511 | 662    | 2477 | 14930 |
| 194 | 0030  | 0844    | 32620 | 735    | 2536 | 14820 |
| 194 | 0050  | 0677    | 32655 | 723    | 2563 | 14759 |
| 194 | 0075  | 0538    | 32711 | 715    | 2584 | 14708 |
| 194 | 0100  | 0510    | 32719 | 710    | 2588 | 14700 |
| 194 | 0125  | 0497    | 32847 | 671    | 2600 | 14701 |
| 194 | 0150  | 0494    | 33444 | 498    | 2647 | 14712 |
| 194 | 0175  | 0456    | 33674 | 396    | 2670 | 14703 |
| 194 | 0200  | 0423    | 33736 | 333    | 2678 | 14694 |
| 194 | 0250  | 0381    | 33781 | 248    | 2686 | 14685 |
| 194 | 0300  | 0362    | 33844 | 191    | 2693 | 14686 |
| 194 | 0400  | 0353    | 33958 | 126    | 2703 | 14700 |
| 194 | 0500  | 0351    | 34077 | 087    | 2712 | 14718 |
| 194 | 0600  | 0342 B  | 34170 | 065    | 2721 | 14722 |
| 230 | 2100  | 0192    | 34591 | 149    | 2767 | 14925 |
| 230 | 2300  | 0183    | 34609 | 172    | 2769 | 14956 |
| 230 | 2500  | 0176    | 34628 | 203    | 2771 | 14987 |
| 230 | 2700  | 0166    | 34646 | 226    | 2774 | 15018 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 1187 B  | 32492  | 659    | 2469 | 14939 | 0000    | 00000  | 3263 |
| 0010  | 1188 B  | 32498  | 658    | 2469 | 14941 | 0033    | 00002  | 3262 |
| 0020  | 1153    | 32511  | 662    | 2477 | 14930 | 0065    | 00007  | 3194 |
| 0030  | 0844    | 32620  | 735    | 2536 | 14820 | 0095    | 00014  | 2625 |
| 0050  | 0677    | 32655  | 723    | 2563 | 14759 | 0145    | 00034  | 2377 |
| 0075  | 0538    | 32711  | 715    | 2584 | 14708 | 0202    | 00071  | 2173 |
| 0100  | 0510    | 32719  | 710    | 2588 | 14700 | 0256    | 00119  | 2139 |
| 0125  | 0497    | 32847  | 671    | 2600 | 14701 | 0309    | 00180  | 2051 |
| 0150  | 0494    | 33444  | 498    | 2647 | 14711 | 0354    | 00243  | 1583 |
| 0175  | 0456    | 33674  | 396    | 2670 | 14703 | 0392    | 00305  | 1372 |
| 0200  | 0423    | 33736  | 333    | 2678 | 14694 | 0425    | 00369  | 1293 |
| 0225  | 0399    | 3376 B | 285    | 2683 | 14688 | 0457    | 00439  | 1249 |
| 0250  | 0381    | 33781  | 248    | 2686 | 14685 | 0488    | 00515  | 1220 |
| 0300  | 0362    | 33844  | 191    | 2693 | 14686 | 0548    | 00684  | 1158 |
| 0400  | 0353    | 33958  | 126    | 2703 | 14700 | 0661    | 01086  | 1071 |
| 0500  | 0351    | 34077  | 087    | 2712 | 14718 | 0765    | 01564  | 0987 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0600  | 0342 B  | 34170 | 065    | 2721 | 14732 | 0861    | 02106  | 0916 |
| 2500  | 0176    | 34628 | 203    | 2771 | 14987 | 2050    | 19824  | 0485 |

C-REF-NO 005 YR 1967 DEPTH C 4206 WAVES 1 0122 AIR T 12.1 VIS 7  
 CONS. NO 011 MONTH 7 MXSAMPD 42 WAVES 2 2833 WET B 10.9 STN 311  
 LAT 50-03 N DAY 24 NO.DPTH 26 WND-DIR 010 WW-CODE 02  
 LON 145-00 W HR 19.5 W-COLOR 00 WND-SPD 06 CLD-TPE 7  
 MARSD SQ 195 C/I 1802 W-TRNSP 10 BARO 1026.1 CLD-APT 8 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 195 | 0000  | 1212 B  | 32501 | 663    | 2465 | 14947 |
| 195 | 0010  | 1211    | 32505 | 663    | 2465 | 14949 |
| 195 | 0020  | 1183    | 32505 | 670    | 2471 | 14941 |
| 195 | 0030  | 0787    | 32636 | 749    | 2546 | 14798 |
| 195 | 0050  | 0625 B  | 32665 | 725    | 2570 | 14738 |
| 195 | 0075  | 0529    | 32699 | 718    | 2584 | 14704 |
| 195 | 0100  | 0505    | 32723 | 720    | 2589 | 14698 |
| 195 | 0125  | 0489    | 32766 | 702    | 2594 | 14696 |
| 195 | 0150  | 0486    | 33326 | 532    | 2639 | 14707 |
| 195 | 0175  | 0453    | 33681 | 498    | 2670 | 14702 |
| 195 | 0200  | 0417    | 33729 | 330    | 2678 | 14691 |
| 195 | 0250  | 0378    | 33774 | 258    | 2686 | 14684 |
| 195 | 0300  | 0363    | 33841 | 189    | 2692 | 14687 |
| 195 | 0400  | 0352    | 33970 | 122    | 2704 | 14700 |
| 195 | 0500  | 0351    | 34090 | 080    | 2713 | 14718 |
| 206 | 1900  | 0198 B  | 34579 | 124    | 2766 | 14894 |
| 206 | 2000  | 0193 B  | 34588 | 137    | 2767 | 14908 |
| 206 | 2500  | 0173    | 34630 | 196    | 2772 | 14986 |
| 206 | 2900  | 0163    | 34650 | 224    | 2774 | 15051 |
| 206 | 3100  | 0158 B  | 34664 | 258    | 2776 | 15084 |
| 206 | 3500  | 0153    | 34677 | 302    | 2777 | 15151 |
| 206 | 3800  | 0150    | 34680 | 316    | 2777 | 15203 |
| 206 | 3900  | 0151    | 34681 | 323    | 2778 | 15221 |
| 206 | 4000  | 0151    | 34686 | 302    | 2778 | 15239 |
| 206 | 4100  | 0150    | 34690 | 326    | 2778 | 15256 |
| 206 | 4200  | 0152 B  |       |        |      |       |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|---------|------|
| 0000  | 1212 B  | 32501 | 663    | 2465 | 14947 | 0000    | 00000   | 3300 |
| 0010  | 1211    | 32505 | 663    | 2465 | 14949 | 0033    | 00002   | 3298 |
| 0020  | 1183    | 32505 | 670    | 2471 | 14941 | 0066    | 00007   | 3251 |
| 0030  | 0787    | 32636 | 749    | 2546 | 14798 | 0095    | 00014   | 2533 |
| 0050  | 0625 B  | 32665 | 725    | 2570 | 14738 | 0144    | 00034   | 2306 |
| 0075  | 0529    | 32699 | 718    | 2584 | 14704 | 0200    | 00070   | 2172 |
| 0100  | 0505    | 32723 | 720    | 2589 | 14698 | 0254    | 00118   | 2130 |
| 0125  | 0489    | 32766 | 702    | 2594 | 14696 | 0307    | 00179   | 2083 |
| 0150  | 0486    | 33326 | 532    | 2639 | 14707 | 0355    | 00245   | 1662 |
| 0175  | 0453    | 33681 | 498    | 2670 | 14702 | 0393    | 00308   | 1363 |



| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|---------|------|
| 0200  | 0417    | 33729  | 330    | 2678 | 14691 | 0426    | 00372   | 1292 |
| 0225  | 0393    | 3375 B | 272 E  | 2683 | 14686 | 0458    | 00442   | 1251 |
| 0250  | 0378    | 33774  | 258    | 2686 | 14684 | 0489    | 00518   | 1223 |
| 0300  | 0363    | 33841  | 189    | 2692 | 14687 | 0549    | 00688   | 1161 |
| 0400  | 0352    | 33970  | 122    | 2704 | 14700 | 0662    | 01088   | 1061 |
| 0500  | 0351    | 34090  | 080    | 2713 | 14718 | 0764    | 01562   | 0978 |
| 2000  | 0193 B  | 34588  | 137    | 2767 | 14909 | 1776    | 13680   | 0517 |
| 2500  | 0173    | 34630  | 196    | 2772 | 14986 | 2029    | 19549   | 0479 |
| 3000  | 0160    | 34657  | 241    | 2775 | 15067 | 2269    | 26344   | 0459 |
| 3500  | 0153    | 34677  | 302    | 2777 | 15152 | 2501    | 34147   | 0449 |
| 4000  | 0151    | 34686  | 302    | 2778 | 15239 | 2732    | 43131   | 0453 |

C-REF-NO 005 YR 1967 DEPTH C 4206 WAVES 1 2622 AIR T 12.4 VIS 3  
 CONS. NO 012 MONTH 7 MXSAMPD 05 WAVES 2 2933 WET B 12.2 STN 312  
 LAT 50-02 N DAY 26 NO.DPTH 15 WND-DIR 260 WW-CODE 43  
 LON 144-56 W HR 19.6 W-COLOR 00 WND-SPD 07 CLD-TPE 7  
 MARSD SQ 195 C/I 1802 W-TRNSP 12 HARD 1024.8 CLD-ANT 8 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 196 | 0000  | 1249 B  | 32515 | 664    | 2459 | 14960 |
| 196 | 0010  | 1237    | 32512 | 666    | 2461 | 14958 |
| 196 | 0020  | 1208    | 32513 | 666    | 2467 | 14949 |
| 196 | 0030  | 1012    | 32573 | 699    | 2506 | 14882 |
| 196 | 0050  | 0663    | 32663 | 711    | 2565 | 14753 |
| 196 | 0075  | 0547    | 32711 | 706    | 2583 | 14711 |
| 196 | 0100  | 0512    | 32721 | 709    | 2588 | 14701 |
| 196 | 0125  | 0497    | 32796 | 680    | 2596 | 14700 |
| 196 | 0150  | 0508    | 33327 | 529    | 2636 | 14716 |
| 196 | 0175  | 0470    | 33649 | 415    | 2666 | 14708 |
| 196 | 0200  | 0420    | 33721 | 334    | 2677 | 14693 |
| 196 | 0250  | 0385 B  | 33779 | 256    | 2685 | 14687 |
| 196 | 0300  | 0365    | 33851 | 184    | 2693 | 14688 |
| 196 | 0400  | 0351    | 33967 | 118    | 2704 | 14700 |
| 196 | 0500  | 0350    | 34091 | 074 B  | 2714 | 14718 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|---------|------|
| 0000  | 1249 B  | 32515  | 664    | 2459 | 14960 | 0000    | 00000   | 3357 |
| 0010  | 1237    | 32512  | 666    | 2461 | 14958 | 0034    | 00002   | 3340 |
| 0020  | 1208    | 32513  | 666    | 2467 | 14949 | 0067    | 00007   | 3289 |
| 0030  | 1012    | 32573  | 699    | 2506 | 14882 | 0098    | 00015   | 2915 |
| 0050  | 0663    | 32663  | 711    | 2565 | 14753 | 0151    | 00036   | 2354 |
| 0075  | 0547    | 32711  | 706    | 2583 | 14711 | 0208    | 00072   | 2183 |
| 0100  | 0512    | 32721  | 709    | 2588 | 14701 | 0263    | 00121   | 2139 |
| 0125  | 0497    | 32796  | 680    | 2596 | 14700 | 0316    | 00182   | 2069 |
| 0150  | 0508    | 33327  | 529    | 2636 | 14716 | 0363    | 00248   | 1686 |
| 0175  | 0470    | 33649  | 415    | 2666 | 14708 | 0407    | 00312   | 1406 |
| 0200  | 0420    | 33721  | 334    | 2677 | 14693 | 0436    | 00378   | 1301 |
| 0225  | 0396 B  | 3376 B | 288 B  | 2682 | 14687 | 0468    | 00448   | 1252 |
| 0250  | 0385 B  | 33779  | 256    | 2685 | 14687 | 0499    | 00524   | 1226 |
| 0300  | 0365    | 33851  | 184    | 2693 | 14688 | 0559    | 00693   | 1156 |
| 0400  | 0351    | 33967  | 118    | 2704 | 14700 | 0671    | 01093   | 1062 |
| 0500  | 0350    | 34091  | 074 B  | 2714 | 14718 | 0774    | 01567   | 0976 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH C 4206 | WAVES 1 2722 | AIR T 12.4 | VIS 7   |
| CONS. NO 013 | MONTH 7  | MXSAMPD 31   | WAVES 2 3233 | WET B 10.6 | STN 313 |
| LAT 49-59 N  | DAY 28   | NO.DPTH 32   | WND-DIR 270  | WW-CODE 02 |         |
| LON 145-02 W | HR 19.9  | W-COLOR 10   | WND-SPD 06   | CLD-TPE 6  |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP 08   | BARO 1015.2  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 198 | 0000  | 1246 B  | 32522 | 652    | 2460 | 14959 |
| 198 | 0010  | 1247    | 32514 |        | 2459 | 14961 |
| 198 | 0020  | 1245    | 32518 | 654    | 2460 | 14962 |
| 198 | 0030  | 0969    | 32573 | 704    | 2513 | 14866 |
| 198 | 0050  | 0676    | 32663 | 711    | 2563 | 14759 |
| 198 | 0075  | 0538    | 32720 | 708    | 2585 | 14708 |
| 198 | 0100  | 0499 B  | 32724 | 706    | 2590 | 14696 |
| 198 | 0125  | 0500    | 32950 | 639    | 2607 | 14703 |
| 198 | 0150  | 0478    | 33583 | 446    | 2660 | 14707 |
| 198 | 0175  | 0459    | 33708 | 381    | 2672 | 14705 |
| 198 | 0200  | 0428    | 33742 | 330    | 2678 | 14696 |
| 198 | 0250  | 0392    | 33799 | 246    | 2686 | 14690 |
| 198 | 0300  | 0367    | 33857 | 183    | 2693 | 14689 |
| 198 | 0400  | 0352    | 33969 | 120    | 2704 | 14700 |
| 198 | 0500  | 0350    | 34083 | 083    | 2713 | 14717 |
| 198 | 0600  | 0340    | 34182 | 063    | 2722 | 14721 |
| 208 | 0800  | 0319    | 34313 | 055    | 2734 | 14757 |
| 226 | 1000  | 0291    | 34393 | 051    | 2743 | 14780 |
| 226 | 1200  | 0265 B  | 34442 | 058    | 2749 | 14803 |
| 226 | 1500  | 0232 B  | 34510 | 075    | 2758 | 14840 |
| 226 | 2000  | 0194    | 34584 |        | 2766 | 14909 |
| 226 | 2100  | 0192    | 34597 | 147    | 2768 | 14925 |
| 226 | 2300  | 0185    | 34610 | 179    | 2769 | 14957 |
| 226 | 2500  | 0174    | 34630 | 201    | 2772 | 14986 |
| 226 | 2700  | 0166 B  | 34641 | 226    | 2773 | 15017 |
| 226 | 2800  | 0164    | 34649 | 238    | 2774 | 15034 |
| 226 | 2850  | 0165    | 34647 | 238    | 2774 | 15043 |
| 226 | 2900  | 0160    | 34649 | 247    | 2774 | 15050 |
| 226 | 2950  | 0160    | 34655 | 252    | 2775 | 15058 |
| 226 | 3000  | 0159    | 34657 | 258    | 2775 | 15067 |
| 226 | 3050  | 0159    | 34648 | 259    | 2774 | 15075 |
| 226 | 3100  | 0155    | 34657 | 282    | 2775 | 15082 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1246 B  | 32522 | 652    | 2460 | 14959 | 0000    | 00000  | 3346 |
| 0010  | 1247    | 32514 | 662 C  | 2459 | 14961 | 0034    | 00002  | 3356 |
| 0020  | 1245    | 32518 | 654    | 2460 | 14962 | 0067    | 00007  | 3352 |
| 0030  | 0969    | 32573 | 704    | 2513 | 14866 | 0099    | 00015  | 2847 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0050  | 0676    | 32663 | 711    | 2563 | 14758 | 0151    | 00036  | 2370 |
| 0075  | 0538    | 32720 | 708    | 2585 | 14708 | 0208    | 00072  | 2166 |
| 0100  | 0499 B  | 32724 | 706    | 2590 | 14696 | 0262    | 00120  | 2123 |
| 0125  | 0500    | 32950 | 639    | 2507 | 14703 | 0313    | 00179  | 1957 |
| 0150  | 0478    | 33583 | 446    | 2660 | 14707 | 0357    | 00239  | 1461 |
| 0175  | 0459    | 33708 | 381    | 2672 | 14705 | 0392    | 00298  | 1349 |
| 0200  | 0428    | 33742 | 330    | 2678 | 14696 | 0425    | 00362  | 1294 |
| 0225  | 0407    | 33771 | 285    | 2682 | 14692 | 0457    | 00432  | 1252 |
| 0250  | 0392    | 33799 | 246    | 2686 | 14690 | 0488    | 00508  | 1218 |
| 0300  | 0367    | 33857 | 183    | 2693 | 14689 | 0548    | 00676  | 1153 |
| 0400  | 0352    | 33969 | 120    | 2704 | 14700 | 0660    | 01076  | 1062 |
| 0500  | 0350    | 34083 | 083    | 2713 | 14717 | 0763    | 01551  | 0982 |
| 0600  | 0340    | 34182 | 063    | 2722 | 14731 | 0858    | 02088  | 0905 |
| 0700  | 0330    | 34256 | 056    | 2729 | 14744 | 0947    | 02677  | 0846 |
| 0800  | 0319    | 34313 | 055    | 2734 | 14757 | 1030    | 03318  | 0799 |
| 1000  | 0291    | 34393 | 051    | 2743 | 14780 | 1184    | 04736  | 0723 |
| 1200  | 0265 B  | 34442 | 058    | 2749 | 14803 | 1325    | 06328  | 0670 |
| 1500  | 0232 B  | 34510 | 075    | 2758 | 14840 | 1518    | 08994  | 0598 |
| 2000  | 0194    | 34584 | 132    | 2766 | 14909 | 1802    | 14074  | 0521 |
| 2500  | 0174    | 34630 | 201    | 2772 | 14986 | 2057    | 19974  | 0481 |
| 3000  | 0159    | 34657 | 258    | 2775 | 15067 | 2297    | 26763  | 0457 |

C-REF-NO 005 YR 1967 DEPTH C 4206 WAVES 1 00X0 AIR T 13.4 VIS 9  
 CONS. NO 014 MONTH 7 MXSAMPD 42 WAVES 2 2842 WET B 10.4 STN 314  
 LAT 50-00 N DAY 31 NO.DPTH 27 WND-DIR CALM WW-CODE 02  
 LON 145-00 W HR 19.1 W-COLOR 20 WND-SPD 00 CLD-TPE 6  
 MARSD SQ 195 C/I 1802 W-TRNSP 09 BARO 1024.9 CLD-AMT 7 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 191 | 0000  | 1353 B  | 32524 | 655    | 2439 | 14996 |
| 191 | 0010  | 1282    | 32514 | 668    | 2453 | 14973 |
| 191 | 0020  | 0980    | 32576 | 706    | 2512 | 14869 |
| 191 | 0030  | 0727    | 32639 | 741    | 2555 | 14775 |
| 191 | 0050  | 0618    | 32672 | 713    | 2572 | 14735 |
| 191 | 0075  | 0487    | 32681 | 714    | 2588 | 14686 |
| 191 | 0100  | 0485    | 32714 | 712    | 2590 | 14690 |
| 191 | 0125  | 0461    | 32767 | 684    | 2597 | 14685 |
| 191 | 0150  | 0468    | 33409 | 496    | 2647 | 14700 |
| 191 | 0175  | 0455    | 33697 | 375    | 2672 | 14703 |
| 191 | 0200  | 0417    | 33735 | 316    | 2679 | 14692 |
| 191 | 0250  | 0391 B  | 33782 | 265    | 2685 | 14689 |
| 191 | 0300  | 0372    | 33844 | 205    | 2692 | 14691 |
| 191 | 0400  | 0352    | 33956 | 126    | 2703 | 14700 |
| 191 | 0500  | 0351    | 34075 | 083    | 2712 | 14718 |
| 204 | 1900  | 0200    | 34569 | 121    | 2765 | 14894 |
| 204 | 2000  | 0194    | 34582 | 138    | 2766 | 14909 |
| 204 | 2500  | 0173    | 34627 | 197    | 2772 | 14986 |
| 204 | 2900  | 0162    | 34649 | 247    | 2774 | 15050 |
| 224 | 3000  | 0159    | 34647 | 254    | 2774 | 15066 |
| 224 | 3050  | 0158    | 34656 | 263    | 2775 | 15075 |
| 224 | 3500  | 0153    | 34670 | 307    | 2776 | 15151 |
| 224 | 3800  | 0152    | 34673 | 310    | 2777 | 15204 |
| 224 | 3900  | 0152    | 34678 | 320    | 2777 | 15221 |
| 224 | 4000  | 0152    | 34677 | 324    | 2777 | 15239 |
| 224 | 4100  | 0150    | 34678 | 326    | 2777 | 15256 |
| 224 | 4200  | 0152    | 34676 | 322    | 2777 | 15274 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1353 B  | 32524 | 655    | 2439 | 14996 | 0000    | 00000  | 3545 |
| 0010  | 1282    | 32514 | 668    | 2453 | 14973 | 0035    | 00002  | 3421 |
| 0020  | 0980    | 32576 | 706    | 2512 | 14869 | 0067    | 00006  | 2860 |
| 0030  | 0727    | 32639 | 741    | 2555 | 14775 | 0093    | 00013  | 2451 |
| 0050  | 0618    | 32672 | 713    | 2572 | 14735 | 0141    | 00033  | 2292 |
| 0075  | 0487    | 32681 | 714    | 2588 | 14686 | 0197    | 00068  | 2140 |
| 0100  | 0485    | 32714 | 712    | 2590 | 14690 | 0250    | 00116  | 2115 |
| 0125  | 0461    | 32767 | 684    | 2597 | 14685 | 0303    | 00177  | 2053 |
| 0150  | 0468    | 33409 | 496    | 2647 | 14700 | 0349    | 00240  | 1581 |



| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0175  | 0455    | 33697 | 375    | 2672 | 14703 | 0386    | 00302  | 1353 |
| 0200  | 0417    | 33735 | 316    | 2679 | 14692 | 0419    | 00366  | 1287 |
| 0225  | 0399 B  | 33760 | 285 B  | 2682 | 14689 | 0451    | 00435  | 1253 |
| 0250  | 0391 B  | 33782 | 265    | 2685 | 14689 | 0482    | 00512  | 1230 |
| 0300  | 0372    | 33844 | 205    | 2692 | 14690 | 0543    | 00682  | 1168 |
| 0400  | 0352    | 33956 | 126    | 2703 | 14700 | 0656    | 01086  | 1071 |
| 0500  | 0351    | 34075 | 083    | 2712 | 14718 | 0760    | 01564  | 0989 |
| 2000  | 0194    | 34582 | 138    | 2766 | 14909 | 1795    | 13951  | 0522 |
| 2500  | 0173    | 34627 | 197    | 2772 | 14986 | 2049    | 19864  | 0482 |
| 3000  | 0159    | 34647 | 254    | 2774 | 15067 | 2290    | 26715  | 0464 |
| 3500  | 0153    | 34670 | 307    | 2776 | 15152 | 2525    | 34606  | 0454 |
| 4000  | 0152    | 34677 | 324    | 2777 | 15239 | 2759    | 43720  | 0461 |

C-REF-NO 005 YR 1967 DEPTH C 4206 WAVES 1 1821 AIR T 14.0 VIS 7  
 CONS. NO 015 MONTH 8 MXSAMPD 05 WAVES 2 2843 WET B 12.5 STN 315  
 LAT 50-04 N DAY 02 NO.DPTH 15 WND-DIR 180 WW-CODE 02  
 LON 145-01 W HR 19.2 W-COLOR 30 WND-SPD 06 CLD-TPE 6  
 MARSD SQ 195 C/I 1802 W-TRNSP 08 BARO 1022.4 CLD-AMT 8 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 192 | 0000  | 1377    | 32525 | 655    | 2435 | 15004 |
| 192 | 0010  | 1289    | 32516 | 680    | 2451 | 14976 |
| 192 | 0020  | 1203    | 32520 | 668    | 2468 | 14948 |
| 192 | 0030  | 0722 B  | 32626 | 748    | 2554 | 14773 |
| 192 | 0050  | 0590    | 32680 | 713    | 2576 | 14724 |
| 192 | 0075  | 0483    | 32682 | 713    | 2588 | 14684 |
| 192 | 0100  | 0462 B  | 32700 | 712    | 2592 | 14680 |
| 192 | 0125  | 0472    | 33074 | 594    | 2620 | 14693 |
| 192 | 0150  | 0460    | 33561 | 440    | 2660 | 14699 |
| 192 | 0175  | 0444 B  | 33704 | 360    | 2673 | 14698 |
| 192 | 0200  | 0430    | 33755 | 313    | 2679 | 14697 |
| 192 | 0250  | 0384 B  | 33807 | 292    | 2688 | 14687 |
| 192 | 0300  | 0362    | 33856 | 172    | 2694 | 14686 |
| 192 | 0400  | 0351    | 33973 | 115    | 2704 | 14700 |
| 192 | 0500  | 0350    | 34072 | 081    | 2712 | 14717 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1377    | 32525 | 655    | 2435 | 15004 | 0000    | 00000  | 3590 |
| 0010  | 1289    | 32516 | 680    | 2451 | 14976 | 0035    | 00002  | 3432 |
| 0020  | 1203    | 32520 | 668    | 2468 | 14948 | 0069    | 00007  | 3275 |
| 0030  | 0722 B  | 32626 | 748    | 2554 | 14773 | 0098    | 00014  | 2454 |
| 0050  | 0590    | 32680 | 713    | 2576 | 14724 | 0145    | 00033  | 2253 |
| 0075  | 0483    | 32682 | 713    | 2588 | 14684 | 0200    | 00068  | 2135 |
| 0100  | 0462 B  | 32700 | 712    | 2592 | 14680 | 0254    | 00116  | 2102 |
| 0125  | 0472    | 33074 | 594    | 2620 | 14693 | 0303    | 00173  | 1834 |
| 0150  | 0460    | 33561 | 440    | 2660 | 14699 | 0345    | 00231  | 1458 |
| 0175  | 0444 B  | 33704 | 360    | 2673 | 14698 | 0380    | 00289  | 1337 |
| 0200  | 0430    | 33755 | 313    | 2679 | 14697 | 0413    | 00353  | 1286 |
| 0225  | 0407 B  | 33785 | 303 C  | 2684 | 14692 | 0445    | 00422  | 1241 |
| 0250  | 0384 B  | 33807 | 292    | 2688 | 14687 | 0476    | 00497  | 1204 |
| 0300  | 0362    | 33856 | 172    | 2694 | 14686 | 0535    | 00665  | 1149 |
| 0400  | 0351    | 33973 | 115    | 2704 | 14700 | 0646    | 01063  | 1058 |
| 0500  | 0350    | 34072 | 081    | 2712 | 14717 | 0750    | 01539  | 0990 |

C-REF-NO 005 YR 1967 DEPTH C 4206 WAVES 1 2121 AIR T 15.1 VIS 7  
 CONS. NO 016 MONTH 8 MXSAMPD 42 WAVES 2 2732 WET B 13.9 STN 316  
 LAT 49-59 N DAY 04 NO.DPTH 28 WND-DIR 210 WW-CODE 02  
 LON 145-01 W HR 18.6 W-COLOR 30 WND-SPD 05 CLD-TPE 6  
 MARSD SQ 159 C/I 1802 W-TRNSP 08 BARO 1024.6 CLD-AMT 2 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 186 | 0000  | 1458 B  | 32453 | 640    | 2412 | 15029 |
| 186 | 0010  | 1296    | 32506 | 680    | 2449 | 14978 |
| 186 | 0020  | 1193 B  | 32496 | 668    | 2468 | 14944 |
| 186 | 0030  | 0737    | 32640 | 741    | 2553 | 14779 |
| 186 | 0050  | 0582    | 32684 | 713    | 2577 | 14721 |
| 186 | 0075  | 0500    | 32694 | 711    | 2587 | 14692 |
| 186 | 0100  | 0484    | 32710 | 713    | 2590 | 14689 |
| 186 | 0125  | 0488    | 32861 | 662    | 2602 | 14697 |
| 186 | 0150  | 0454    | 33510 | 450    | 2657 | 14696 |
| 186 | 0175  | 0437 B  | 33663 | 377    | 2671 | 14695 |
| 186 | 0200  | 0408    | 33708 | 328    | 2677 | 14687 |
| 186 | 0250  | 0381 B  | 33770 | 254    | 2685 | 14685 |
| 186 | 0300  | 0378    | 33846 | 198    | 2691 | 14693 |
| 186 | 0400  | 0351    | 33960 | 123    | 2703 | 14700 |
| 186 | 0500  | 0350    | 34074 | 082    | 2712 | 14717 |
| 186 | 0600  | 0342    | 34163 | 066    | 2720 | 14732 |
| 221 | 0800  | 0324    | 34306 | 057    | 2733 | 14759 |
| 221 | 1000  | 0290    | 34381 | 056    | 2742 | 14779 |
| 221 | 1200  | 0262 B  | 34435 | 059    | 2749 | 14801 |
| 221 | 1500  | 0233    | 34504 | 075    | 2757 | 14840 |
| 221 | 1900  | 0201 B  | 34568 | 120    | 2765 | 14895 |
| 221 | 1950  | 0200    | 34572 | 126    | 2765 | 14903 |
| 221 | 2000  | 0194    | 34577 | 133    | 2766 | 14909 |
| 221 | 2500  | 0174    | 34622 | 200    | 2771 | 14986 |
| 221 | 3000  | 0159    | 34657 | 257    | 2775 | 15067 |
| 221 | 3500  | 0154    | 34668 | 299    | 2776 | 15152 |
| 221 | 4000  | 0150    | 34686 | 322    | 2778 | 15238 |
| 221 | 4200  | 0152    | 34685 | 328    | 2778 | 15275 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1458 B  | 32453 | 640    | 2412 | 15029 | 0000    | 00000  | 3803 |
| 0010  | 1296    | 32506 | 680    | 2449 | 14978 | 0036    | 00002  | 3453 |
| 0020  | 1193 B  | 32496 | 668    | 2468 | 14944 | 0070    | 00007  | 3275 |
| 0030  | 0737    | 32640 | 741    | 2553 | 14779 | 0099    | 00014  | 2463 |
| 0050  | 0582    | 32684 | 713    | 2577 | 14721 | 0146    | 00033  | 2241 |
| 0075  | 0500    | 32694 | 711    | 2587 | 14692 | 0202    | 00068  | 2144 |
| 0100  | 0484    | 32710 | 713    | 2590 | 14689 | 0255    | 00117  | 2117 |
| 0125  | 0488    | 32861 | 662    | 2602 | 14697 | 0307    | 00176  | 2011 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0150  | 0454    | 33510 | 450    | 2657 | 14696 | 0351    | 00238  | 1490 |
| 0175  | 0437 B  | 33663 | 377    | 2671 | 14695 | 0387    | 00297  | 1360 |
| 0200  | 0408    | 33708 | 328    | 2677 | 14687 | 0421    | 00362  | 1298 |
| 0225  | 0390    | 33740 | 288    | 2682 | 14685 | 0453    | 00432  | 1258 |
| 0250  | 0381 B  | 33770 | 254    | 2685 | 14685 | 0484    | 00508  | 1229 |
| 0300  | 0378    | 33846 | 198    | 2691 | 14693 | 0545    | 00679  | 1173 |
| 0400  | 0351    | 33960 | 123    | 2703 | 14700 | 0658    | 01083  | 1067 |
| 0500  | 0350    | 34074 | 082    | 2712 | 14717 | 0762    | 01560  | 0989 |
| 0600  | 0342    | 34163 | 066    | 2720 | 14732 | 0858    | 02104  | 0921 |
| 0700  | 0334    | 34242 | 059    | 2727 | 14746 | 0948    | 02705  | 0861 |
| 0800  | 0324    | 34306 | 057    | 2733 | 14759 | 1033    | 03355  | 0810 |
| 1000  | 0290    | 34381 | 056    | 2742 | 14779 | 1189    | 04790  | 0730 |
| 1200  | 0262 B  | 34435 | 059    | 2749 | 14801 | 1331    | 06392  | 0671 |
| 1500  | 0233    | 34504 | 075    | 2757 | 14840 | 1525    | 09075  | 0604 |
| 2000  | 0194    | 34577 | 133    | 2766 | 14909 | 1812    | 14204  | 0526 |
| 2500  | 0174    | 34622 | 200    | 2771 | 14986 | 2069    | 20168  | 0487 |
| 3000  | 0159    | 34657 | 257    | 2775 | 15067 | 2310    | 26995  | 0457 |
| 3500  | 0154    | 34668 | 299    | 2776 | 15152 | 2544    | 34856  | 0457 |
| 4000  | 0150    | 34686 | 322    | 2778 | 15239 | 2777    | 43896  | 0451 |

|              |          |              |              |            |         |
|--------------|----------|--------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH C 4206 | WAVES 1 2121 | AIR T 15.1 | VIS 7   |
| CONS. NO 017 | MONTH 8  | MXSAMPD 30   | WAVES 2 2732 | WET B 13.9 | STN 317 |
| LAT 49-59 N  | DAY 04   | NO.DPTH 10   | WND-DIR 210  | WW-CODE 02 |         |
| LON 145-01 W | HR 23.9  | W-COLOR 30   | WND-SPD 05   | CLD-TPE 6  |         |
| MARSD SQ 159 | C/I 1802 | W-TRNSP 08   | BARO 1024.6  | CLD-AMT 2  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 239 | 2850  | 0166    | 34639 | 236    | 2773 | 15043 |
| 239 | 2875  | 0164 B  | 34642 | 238    | 2773 | 15047 |
| 239 | 2900  | 0163    | 34645 | 240    | 2774 | 15051 |
| 239 | 2925  | 0163 B  | 34643 | 247    | 2774 | 15055 |
| 239 | 2945  | 0163    | 34647 | 246    | 2774 | 15059 |
| 239 | 2955  | 0164    | 34642 | 254    | 2773 | 15061 |
| 239 | 2975  | 0160    | 34648 | 250    | 2774 | 15063 |
| 239 | 3000  | 0161    | 34650 | 255    | 2774 | 15067 |
| 239 | 3025  | 0161    | 34651 |        | 2774 | 15072 |
| 239 | 3050  | 0159    | 34653 | 258    | 2775 | 15075 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 3000  | 0161    | 34650 | 255    | 2774 | 15068 | 2312    | 27057  | 0465 |



C-REF-NO 005 YR 1967 DEPTH 4023 WAVES 1 1835 AIR T 15.1 VIS 7  
 CONS. NO 018 MONTH 8 MXSAMPD 35 WAVES 2 2243 WET B 13.8 STN 012  
 LAT 49-50 N DAY 07 NO.DPTH 25 WND-DIR 180 WW-CODE  
 LON 142-40 W HR 09.1 W-COLOR WND-SPD 06 CLD-TPE 6  
 MARSD SQ 159 C/I 1802 W-TRNSP BARO 1011.5 CLD-AMT 8 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 091 | 0000  | 1433    | 32527 |        | 2423 | 15022 |
| 091 | 0010  | 1395    | 32521 |        | 2431 | 15011 |
| 091 | 0020  | 1146    | 32535 |        | 2480 | 14928 |
| 091 | 0030  | 0869    | 32593 |        | 2531 | 14829 |
| 091 | 0050  | 0658    | 32644 |        | 2564 | 14751 |
| 091 | 0075  | 0514    | 32672 |        | 2584 | 14697 |
| 091 | 0100  | 0498 C  | 32694 |        | 2587 | 14695 |
| 091 | 0125  | 0456    | 32875 |        | 2606 | 14684 |
| 091 | 0150  | 0448    | 33353 |        | 2645 | 14691 |
| 091 | 0175  | 0433 C  | 33651 |        | 2670 | 14693 |
| 091 | 0200  | 0408 B  | 33714 |        | 2678 | 14687 |
| 091 | 0250  | 0389 B  | 33800 |        | 2687 | 14689 |
| 091 | 0300  | 0367    | 33849 |        | 2693 | 14688 |
| 091 | 0400  | 0374    | 33977 |        | 2702 | 14710 |
| 103 | 1984  | 0189    | 34591 | 147    | 2767 | 14904 |
| 103 | 2482  | 0170    | 34632 | 215    | 2772 | 14982 |
| 103 | 2682  | 0165    | 34642 | 236    | 2773 | 15014 |
| 103 | 2781  | 0161 B  | 34644 | 239    | 2774 | 15029 |
| 103 | 2831  | 0160    | 34648 | 254    | 2774 | 15038 |
| 103 | 2881  | 0157    | 34649 | 255    | 2774 | 15045 |
| 103 | 2931  | 0156    | 34651 | 259    | 2775 | 15053 |
| 103 | 2981  | 0155    | 34653 | 266    | 2775 | 15062 |
| 103 | 3081  | 0156    | 34659 | 277    | 2775 | 15079 |
| 103 | 3280  | 0152    | 34667 | 291    | 2776 | 15112 |
| 103 | 3480  | 0151    | 34667 | 301    | 2776 | 15147 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1433    | 32527 |        | 2423 | 15022 | 0000    | 00000  | 3699 |
| 0010  | 1395    | 32521 |        | 2431 | 15011 | 0037    | 00002  | 3631 |
| 0020  | 1146    | 32535 |        | 2480 | 14928 | 0071    | 00007  | 3164 |
| 0030  | 0869    | 32593 |        | 2531 | 14829 | 0100    | 00014  | 2681 |
| 0050  | 0658    | 32644 |        | 2564 | 14751 | 0151    | 00035  | 2362 |
| 0075  | 0514    | 32672 |        | 2584 | 14697 | 0208    | 00071  | 2176 |
| 0100  | 0498 C  | 32694 |        | 2587 | 14695 | 0263    | 00120  | 2144 |
| 0125  | 0456    | 32875 |        | 2606 | 14684 | 0314    | 00179  | 1966 |
| 0150  | 0448    | 33353 |        | 2645 | 14691 | 0359    | 00242  | 1602 |
| 0175  | 0433 C  | 33651 |        | 2670 | 14693 | 0397    | 00304  | 1365 |
| 0200  | 0408 B  | 33714 |        | 2678 | 14687 | 0430    | 00368  | 1294 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT. EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|---------|------|
| 0225  | 0396 B  | 33763 |        | 2683 | 14687 | 0462    | 00438   | 1247 |
| 0250  | 0389 B  | 33800 |        | 2687 | 14689 | 0493    | 00514   | 1214 |
| 0300  | 0367    | 33849 |        | 2693 | 14688 | 0553    | 00682   | 1159 |
| 0400  | 0374    | 33977 |        | 2702 | 14710 | 0666    | 01086   | 1078 |
| 2000  | 0188    | 34593 | 150    | 2768 | 14907 | 1702    | 12671   | 0507 |
| 2500  | 0170    | 34633 | 217    | 2772 | 14985 | 1951    | 18447   | 0473 |
| 3000  | 0155    | 34654 | 268    | 2775 | 15065 | 2188    | 25157   | 0454 |
| 3500  | 0151    | 34667 | 302    | 2776 | 15151 | 2419    | 32954   | 0453 |

C-REF-NO 005 YR 1967 DEPTH 3886 WAVES 1 1822 AIR T 14.7 VIS 7  
 CONS. NO 019 MONTH 8 MXSAMPD 15 WAVES 2 2532 WET B 14.6 STN 011  
 LAT 49-41 N DAY 07 NO.DPTH 20 WND-DIR 180 WW-CODE 61  
 LON 140-46 W HR 18.9 W-COLOR 10 WND-SPD 09 CLD-TPE 7  
 MARSD SQ 159 C/I 1802 W-TRNSP 14 BARO 1011.2 CLD-AMT 5 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 189 | 0000  | 1457    | 32494 |        | 2416 | 15029 |
| 189 | 0010  | 1457    | 32492 |        | 2415 | 15031 |
| 189 | 0020  | 1255 B  | 32545 |        | 2460 | 14966 |
| 189 | 0030  | 0847 B  | 32600 |        | 2534 | 14821 |
| 189 | 0050  | 0676    | 32628 |        | 2561 | 14758 |
| 189 | 0075  | 0532    | 32661 |        | 2581 | 14704 |
| 189 | 0100  | 0488    | 32859 |        | 2602 | 14693 |
| 189 | 0125  | 0502    | 33390 |        | 2642 | 14710 |
| 189 | 0150  | 0494    | 33620 |        | 2661 | 14714 |
| 189 | 0175  | 0462    | 33745 |        | 2675 | 14706 |
| 189 | 0200  | 0438    | 33783 |        | 2680 | 14701 |
| 189 | 0250  | 0422    | 33855 |        | 2688 | 14704 |
| 189 | 0300  | 0392    | 33904 |        | 2695 | 14700 |
| 189 | 0400  | 0385    | 34035 |        | 2706 | 14715 |
| 194 | 0500  | 0382    | 34132 |        | 2714 | 14732 |
| 194 | 0600  | 0371    | 34212 |        | 2721 | 14745 |
| 194 | 0800  | 0328    | 34322 |        | 2734 | 14761 |
| 194 | 1000  | 0296    | 34390 |        | 2742 | 14782 |
| 194 | 1200  | 0264 B  | 34452 |        | 2750 | 14802 |
| 194 | 1500  | 0227    | 34526 |        | 2759 | 14838 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1457    | 32494 |        | 2416 | 15029 | 0000    | 00000  | 3771 |
| 0010  | 1457    | 32492 |        | 2415 | 15031 | 0038    | 00002  | 3775 |
| 0020  | 1255 B  | 32545 |        | 2460 | 14966 | 0074    | 00007  | 3350 |
| 0030  | 0847 B  | 32600 |        | 2534 | 14821 | 0104    | 00015  | 2644 |
| 0050  | 0676    | 32628 |        | 2561 | 14758 | 0155    | 00035  | 2396 |
| 0075  | 0532    | 32661 |        | 2581 | 14704 | 0212    | 00072  | 2204 |
| 0100  | 0488    | 32859 |        | 2602 | 14693 | 0265    | 00119  | 2010 |
| 0125  | 0502    | 33390 |        | 2642 | 14710 | 0311    | 00172  | 1629 |
| 0150  | 0494    | 33620 |        | 2661 | 14714 | 0350    | 00226  | 1451 |
| 0175  | 0462    | 33745 |        | 2675 | 14706 | 0385    | 00284  | 1325 |
| 0200  | 0438    | 33783 |        | 2680 | 14701 | 0418    | 00347  | 1273 |
| 0225  | 0428    | 33821 |        | 2684 | 14702 | 0449    | 00416  | 1237 |
| 0250  | 0422    | 33855 |        | 2688 | 14703 | 0480    | 00491  | 1207 |
| 0300  | 0392    | 33904 |        | 2695 | 14700 | 0540    | 00658  | 1143 |
| 0400  | 0385    | 34035 |        | 2706 | 14715 | 0650    | 01053  | 1046 |
| 0500  | 0382    | 34132 |        | 2714 | 14732 | 0752    | 01524  | 0979 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0600  | 0371    | 34212 |        | 2721 | 14745 | 0848    | 02063  | 0915 |
| 0700  | 0351    | 34274 |        | 2728 | 14753 | 0937    | 02660  | 0855 |
| 0800  | 0328    | 34322 |        | 2734 | 14761 | 1021    | 03305  | 0802 |
| 1000  | 0296    | 34390 |        | 2742 | 14782 | 1176    | 04734  | 0730 |
| 1200  | 0264 B  | 34452 |        | 2750 | 14802 | 1317    | 06323  | 0661 |
| 1500  | 0227    | 34526 |        | 2759 | 14838 | 1506    | 08931  | 0581 |

|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH 4005 | WAVES 1 1932 | AIR T 16.2 | VIS 4   |
| CONS. NO 020 | MONTH 8  | MXSAMPD 04 | WAVES 2 2033 | WET B 15.8 | STN 010 |
| LAT 49-34 N  | DAY 08   | NO.DPTH 14 | WND-DIR 190  | WW-CODE 02 |         |
| LON 138-40 W | HR 01.7  | W-COLOR 10 | WND-SPD 11   | CLD-TPE X  |         |
| MARSD SQ 158 | C/I 1802 | W-TRNSP 08 | BARO 1012.5  | CLD-AMT 9  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 017 | 0000  | 1495    | 32492 |        | 2407 | 15042 |
| 017 | 0010  | 1467 B  | 32510 |        | 2415 | 15034 |
| 017 | 0020  | 1084 B  | 32532 |        | 2491 | 14906 |
| 017 | 0029  | 0761    | 32613 |        | 2548 | 14788 |
| 017 | 0049  | 0582    | 32650 |        | 2574 | 14720 |
| 017 | 0074  | 0528    | 32655 |        | 2581 | 14703 |
| 017 | 0098  | 0505 B  | 32692 |        | 2586 | 14697 |
| 017 | 0122  | 0478    | 32808 |        | 2599 | 14692 |
| 017 | 0147  | 0511    | 33326 |        | 2636 | 14716 |
| 017 | 0172  | 0520    | 33711 |        | 2665 | 14729 |
| 017 | 0196  | 0490    | 33766 |        | 2673 | 14722 |
| 017 | 0245  | 0441 B  | 33835 |        | 2684 | 14710 |
| 017 | 0294  | 0419    | 33890 |        | 2691 | 14710 |
| 017 | 0393  | 0396    | 34000 |        | 2702 | 14718 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 1495    | 32492  |        | 2407 | 15042 | 0000    | 00000  | 3850 |
| 0010  | 1467 B  | 32510  |        | 2415 | 15034 | 0038    | 00002  | 3782 |
| 0020  | 1084 B  | 32532  |        | 2491 | 14906 | 0073    | 00007  | 3061 |
| 0030  | 0742 C  | 32618  |        | 2551 | 14781 | 0101    | 00014  | 2486 |
| 0050  | 0578    | 32650  |        | 2575 | 14719 | 0146    | 00033  | 2261 |
| 0075  | 0527    | 32655  |        | 2581 | 14702 | 0205    | 00069  | 2202 |
| 0100  | 0502 B  | 3269 B |        | 2587 | 14696 | 0259    | 00118  | 2149 |
| 0125  | 0481    | 3286 C |        | 2603 | 14694 | 0312    | 00178  | 2002 |
| 0150  | 0514    | 33365  |        | 2640 | 14719 | 0358    | 00243  | 1649 |
| 0175  | 0517    | 3373 B |        | 2667 | 14729 | 0396    | 00306  | 1400 |
| 0200  | 0485    | 33773  |        | 2674 | 14720 | 0430    | 00372  | 1332 |
| 0225  | 0458    | 33811  |        | 2680 | 14714 | 0463    | 00444  | 1276 |
| 0250  | 0438 B  | 33841  |        | 2685 | 14710 | 0495    | 00521  | 1234 |
| 0300  | 0411 B  | 33901  |        | 2692 | 14708 | 0555    | 00692  | 1166 |
| 0400  | 0397    | 34007  |        | 2702 | 14720 | 0669    | 01097  | 1080 |



|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH 3657 | WAVES 1 2024 | AIR T 15.8 | VIS 7   |
| CONS. NO 021 | MONTH 8  | MXSAMPD 04 | WAVES 2 2532 | WET B 15.1 | STN 009 |
| LAT 49-25 N  | DAY 08   | NO.DPTH 14 | WIND-DIR 200 | WW-CODE 02 |         |
| LOX 136-49 W | HR 06.9  | W-COLOR    | WIND-SPD 12  | CLD-TPE 7  |         |
| MARSD SQ 158 | C/I 1802 | W-TRNSP    | BARO 1014.2  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 069 | 0000  | 1523    | 32483 |        | 2401 | 15050 |
| 069 | 0010  | 1524    | 32479 |        | 2400 | 15052 |
| 069 | 0020  | 1152    | 32538 |        | 2479 | 14930 |
| 069 | 0030  | 0843    | 32570 |        | 2533 | 14819 |
| 069 | 0049  | 0613    | 32611 |        | 2567 | 14732 |
| 069 | 0074  | 0567    | 32643 |        | 2575 | 14718 |
| 069 | 0099  | 0554    | 32651 |        | 2578 | 14717 |
| 069 | 0124  | 0530    | 32864 |        | 2597 | 14714 |
| 069 | 0149  | 0520 B  | 33397 |        | 2641 | 14721 |
| 069 | 0174  | 0516    |       |        |      |       |
| 069 | 0199  | 0493    | 33749 |        | 2671 | 14723 |
| 069 | 0248  | 0433    | 33770 |        | 2680 | 14707 |
| 069 | 0298  | 0381    | 33801 |        | 2687 | 14693 |
| 069 | 0397  | 0372    | 33955 |        | 2701 | 14708 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 1523    | 32483  |        | 2401 | 15050 | 0000    | 00000  | 3914 |
| 0010  | 1524    | 32479  |        | 2400 | 15052 | 0039    | 00002  | 3922 |
| 0020  | 1152    | 32538  |        | 2479 | 14930 | 0075    | 00007  | 3172 |
| 0030  | 0843    | 32570  |        | 2533 | 14819 | 0104    | 00015  | 2661 |
| 0050  | 0608    | 32613  |        | 2568 | 14731 | 0155    | 00035  | 2324 |
| 0075  | 0566    | 32642  |        | 2575 | 14718 | 0212    | 00072  | 2257 |
| 0100  | 0553    | 32654  |        | 2578 | 14717 | 0269    | 00122  | 2235 |
| 0125  | 0529    | 3289 B |        | 2599 | 14715 | 0322    | 00184  | 2038 |
| 0150  | 0520 B  | 33410  |        | 2642 | 14722 | 0369    | 00249  | 1637 |
| 0175  | 0515    | 3366 I |        | 2662 | 14727 | 0408    | 00313  | 1447 |
| 0200  | 0492    | 33751  |        | 2672 | 14723 | 0443    | 00381  | 1356 |
| 0225  | 0462    | 3378 E |        | 2677 | 14715 | 0476    | 00454  | 1304 |
| 0250  | 0431    | 33771  |        | 2680 | 14706 | 0509    | 00533  | 1279 |
| 0300  | 0385 B  | 33808  |        | 2688 | 14696 | 0572    | 00710  | 1208 |
| 0400  | 0373    | 33961  |        | 2701 | 14709 | 0688    | 01124  | 1089 |

C-REF-NO 005 YR 1967 DEPTH 3236 WAVES 1 1923 AIR T 17.0 VIS 6  
 CONS. NO 022 MONTH 8 MXSAMPD 04 WAVES 2 2532 WET B 16.3 STN 007  
 LAT 49-05 N DAY 08 NO.DPTH 14 WND-DIR 190 WW-CODE 10  
 LON 132-44 W HR 19.0 W-COLOR WND-SPD 09 CLD-TPE 7  
 MARSD SQ 158 C/I 1802 W-TRNSP BARO 1019.9 CLD-AMT 8 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 190 | 0000  | 1637    | 32295 |        | 2361 | 15084 |
| 190 | 0010  | 1623    | 32303 |        | 2365 | 15081 |
| 190 | 0020  | 1312    | 32543 |        | 2449 | 14985 |
| 190 | 0030  | 1038    | 32613 |        | 2505 | 14892 |
| 190 | 0050  | 0863    | 32608 |        | 2533 | 14830 |
| 190 | 0075  | 0687    | 32639 |        | 2560 | 14767 |
| 190 | 0100  | 0638 B  | 32669 |        | 2569 | 14752 |
| 190 | 0125  | 0644 B  | 32830 |        | 2581 | 14760 |
| 190 | 0150  | 0619    | 33539 |        | 2640 | 14764 |
| 190 | 0175  | 0588    | 33697 |        | 2656 | 14757 |
| 190 | 0200  | 0541    | 33769 |        | 2667 | 14743 |
| 190 | 0250  | 0476 B  | 33793 |        | 2677 | 14725 |
| 190 | 0300  | 0427    | 33832 |        | 2685 | 14714 |
| 190 | 0400  | 0395    | 33953 |        | 2698 | 14718 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 1637    | 32295  |        | 2361 | 15084 | 0000    | 00000  | 4293 |
| 0010  | 1623    | 32303  |        | 2365 | 15081 | 0043    | 00002  | 4260 |
| 0020  | 1312    | 32543  |        | 2449 | 14985 | 0082    | 00008  | 3458 |
| 0030  | 1038    | 32613  |        | 2505 | 14892 | 0114    | 00016  | 2927 |
| 0050  | 0863    | 32608  |        | 2533 | 14830 | 0170    | 00039  | 2665 |
| 0075  | 0687    | 32639  |        | 2560 | 14767 | 0234    | 00079  | 2405 |
| 0100  | 0638 B  | 32669  |        | 2569 | 14752 | 0293    | 00132  | 2324 |
| 0125  | 0644 B  | 32830  |        | 2581 | 14760 | 0350    | 00198  | 2215 |
| 0150  | 0619    | 33539  |        | 2640 | 14764 | 0399    | 00266  | 1658 |
| 0175  | 0588    | 33697  |        | 2656 | 14757 | 0439    | 00332  | 1505 |
| 0200  | 0541    | 33769  |        | 2667 | 14743 | 0476    | 00402  | 1398 |
| 0225  | 0505    | 3379 C |        | 2673 | 14733 | 0510    | 00478  | 1344 |
| 0250  | 0476 B  | 33793  |        | 2677 | 14725 | 0544    | 00559  | 1312 |
| 0300  | 0427    | 33832  |        | 2685 | 14713 | 0608    | 00740  | 1234 |
| 0400  | 0395    | 33953  |        | 2698 | 14718 | 0727    | 01164  | 1118 |

C-REF-NO 005 YR 1967 DEPTH 3438 WAVES 1 1923 AIR T 18.4 VIS 7  
 CONS. NO 023 MONTH 8 MXSAMPD 15 WAVES 2 1933 WET B 17.2 STN 006  
 LAT 49-02 N DAY 09 NO.DPTH 20 WND-DIR 190 WW-CODE 02  
 LON 130-40 W HR 01.4 W-COLOR 10 WND-SPD 06 CLD-TPE 3  
 MARSD SQ 158 C/I 1802 W-TRNSP 14 BARO 1020.9 CLD-AMT 6 HW

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 014 | 0000  | 1695    | 32132 |        | 2335 | 15099 |
| 014 | 0010  | 1683    | 32180 |        | 2341 | 15098 |
| 014 | 0020  | 1589 B  | 32226 |        | 2366 | 15071 |
| 014 | 0030  | 1306    | 32333 |        | 2434 | 14982 |
| 014 | 0050  | 1005    | 32375 |        | 2492 | 14880 |
| 014 | 0075  | 0727    | 32565 |        | 2549 | 14781 |
| 014 | 0100  | 0717 C  | 32901 |        | 2577 | 14786 |
| 014 | 0125  | 0695    | 32904 |        | 2580 | 14781 |
| 014 | 0150  | 0709 B  | 33635 |        | 2635 | 14801 |
| 014 | 0175  | 0684 B  | 33775 |        | 2650 | 14797 |
| 014 | 0200  | 0639    | 33839 |        | 2661 | 14784 |
| 014 | 0250  | 0571 B  | 33874 |        | 2672 | 14765 |
| 014 | 0300  | 0526    | 33917 |        | 2681 | 14756 |
| 014 | 0400  | 0481    | 33999 |        | 2693 | 14755 |
| 019 | 0500  | 0459    | 34096 |        | 2703 | 14763 |
| 019 | 0600  | 0427 B  | 34176 |        | 2712 | 14768 |
| 019 | 0800  | 0377 B  | 34304 |        | 2728 | 14782 |
| 019 | 1000  | 0326 C  | 34389 |        | 2740 | 14794 |
| 019 | 1200  | 0291    | 34493 |        | 2751 | 14814 |
| 019 | 1500  | 0241    | 34522 |        | 2758 | 14844 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 1695    | 32132  |        | 2335 | 15099 | 0000    | 00000  | 4540 |
| 0010  | 1683    | 32180  |        | 2341 | 15098 | 0045    | 00002  | 4481 |
| 0020  | 1589 B  | 32226  |        | 2366 | 15071 | 0089    | 00009  | 4246 |
| 0030  | 1306    | 32333  |        | 2434 | 14982 | 0129    | 00019  | 3603 |
| 0050  | 1005    | 32375  |        | 2492 | 14880 | 0195    | 00046  | 3054 |
| 0075  | 0727    | 32565  |        | 2549 | 14781 | 0265    | 00090  | 2512 |
| 0100  | 0717 C  | 32901  |        | 2577 | 14786 | 0325    | 00143  | 2252 |
| 0125  | 0695    | 32904  |        | 2580 | 14781 | 0382    | 00208  | 2224 |
| 0150  | 0709 B  | 33635  |        | 2635 | 14801 | 0431    | 00277  | 1702 |
| 0175  | 0684 B  | 33775  |        | 2650 | 14797 | 0472    | 00345  | 1569 |
| 0200  | 0639    | 33839  |        | 2661 | 14784 | 0511    | 00419  | 1466 |
| 0225  | 0602    | 3386 B |        | 2668 | 14773 | 0547    | 00497  | 1404 |
| 0250  | 0571 B  | 33874  |        | 2672 | 14765 | 0582    | 00582  | 1362 |
| 0300  | 0526    | 33917  |        | 2681 | 14756 | 0648    | 00770  | 1282 |
| 0400  | 0481    | 33999  |        | 2693 | 14755 | 0772    | 01213  | 1179 |
| 0500  | 0459    | 34096  |        | 2703 | 14763 | 0887    | 01741  | 1091 |

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0600  | 0427 B  | 34176 |        | 2712 | 14768 | 0993    | 02337  | 1004 |
| 0700  | 0401 B  | 34245 |        | 2721 | 14774 | 1091    | 02989  | 0932 |
| 0800  | 0377 B  | 34304 |        | 2728 | 14782 | 1182    | 03690  | 0870 |
| 1000  | 0326 C  | 34389 |        | 2740 | 14794 | 1347    | 05210  | 0764 |
| 1200  | 0291    | 34493 |        | 2751 | 14814 | 1492    | 06834  | 0661 |
| 1500  | 0241    | 34522 |        | 2758 | 14844 | 1683    | 09487  | 0600 |

|              |          |            |             |            |            |         |
|--------------|----------|------------|-------------|------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH 2176 | WAVES 1     | XX         | AIR T 16.6 | VIS     |
| CONS. NO 024 | MONTH 8  | MXSAMPD 04 | WAVES 2     | XX         | WET B 16.1 | STN 005 |
| LAT 48-51 N  | DAY 09   | NO.DPTH 14 | WND-DIR 260 | WW-CODE 02 |            |         |
| LON 128-40 W | HR 08.2  | W-COLOR    | WND-SPD 02  | CLD-TPE    |            |         |
| MARSD SQ 157 | C/I 1802 | W-TRNSP    | BARO 1019.4 | CLD-AMT    |            | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 082 | 0000  | 1633    | 31836 |        | 2327 | 15077 |
| 082 | 0010  | 1534 B  | 31817 |        | 2347 | 15047 |
| 082 | 0020  | 1396    | 31955 |        | 2387 | 15006 |
| 082 | 0030  | 1192    | 32047 |        | 2434 | 14940 |
| 082 | 0050  | 0874    | 32367 |        | 2512 | 14831 |
| 082 | 0075  | 0732    | 32529 |        | 2545 | 14783 |
| 082 | 0100  | 0705    | 32749 |        | 2566 | 14779 |
| 082 | 0125  | 0693 B  | 33264 |        | 2608 | 14785 |
| 082 | 0150  | 0702 B  | 33626 |        | 2636 | 14798 |
| 082 | 0175  | 0686    | 33661 |        | 2641 | 14796 |
| 082 | 0200  | 0656    | 33840 |        | 2659 | 14791 |
| 082 | 0250  | 0599 B  | 33885 |        | 2670 | 14777 |
| 082 | 0300  | 0550    | 33907 |        | 2677 | 14765 |
| 082 | 0400  | 0472    | 33974 |        | 2692 | 14751 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L  | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|--------|--------|------|-------|---------|--------|------|
| 0000  | 1633    | 31836  |        | 2327 | 15077 | 0000    | 00000  | 4620 |
| 0010  | 1534 B  | 31817  |        | 2347 | 15047 | 0045    | 00002  | 4427 |
| 0020  | 1396    | 31955  |        | 2387 | 15006 | 0088    | 00009  | 4051 |
| 0030  | 1192    | 32047  |        | 2434 | 14940 | 0126    | 00018  | 3606 |
| 0050  | 0874    | 32367  |        | 2512 | 14831 | 0191    | 00044  | 2860 |
| 0075  | 0732    | 32529  |        | 2545 | 14783 | 0259    | 00087  | 2545 |
| 0100  | 0705    | 32749  |        | 2566 | 14779 | 0321    | 00142  | 2350 |
| 0125  | 0693 B  | 33264  |        | 2608 | 14785 | 0375    | 00204  | 1954 |
| 0150  | 0702 B  | 33626  |        | 2636 | 14798 | 0421    | 00269  | 1700 |
| 0175  | 0686    | 33661  |        | 2641 | 14796 | 0463    | 00339  | 1656 |
| 0200  | 0656    | 33840  |        | 2659 | 14791 | 0503    | 00415  | 1487 |
| 0225  | 0627    | 3389 F |        | 2666 | 14784 | 0540    | 00494  | 1416 |
| 0250  | 0599 B  | 33885  |        | 2670 | 14777 | 0575    | 00581  | 1388 |
| 0300  | 0550    | 33907  |        | 2677 | 14765 | 0643    | 00773  | 1318 |
| 0400  | 0472    | 33974  |        | 2692 | 14751 | 0770    | 01223  | 1187 |



|              |          |            |              |            |         |
|--------------|----------|------------|--------------|------------|---------|
| C-REF-NO 005 | YR 1967  | DEPTH 2596 | WAVES 1 2822 | AIR T 15.9 | VIS 7   |
| CONS. NO 025 | MONTH 8  | MXSAMPD 04 | WAVES 2 2032 | WET B 15.5 | STN 004 |
| LAT 48-46 N  | DAY 09   | NO.DPTH 14 | WIND-DIR 330 | WW-COEE 03 |         |
| LON 127-40 W | HR 12.4  | W-COLOR 10 | WIND-SPD 09  | CLL-TPE 7  |         |
| MARSD SQ 157 | C/I 1802 | W-TRNSP 10 | BARO 1019.4  | CLD-AMT 8  | HW      |

## O B S E R V E D

| GMT | DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND |
|-----|-------|---------|-------|--------|------|-------|
| 124 | 0000  | 1590    | 31891 |        | 2340 | 15064 |
| 124 | 0010  | 1580    | 31899 |        | 2343 | 15063 |
| 124 | 0020  | 1450    | 31864 |        | 2369 | 15023 |
| 124 | 0030  | 1086    | 31860 |        | 2438 | 14900 |
| 124 | 0050  | 0807    | 32453 |        | 2529 | 14807 |
| 124 | 0075  | 0761    | 32810 |        | 2563 | 14798 |
| 124 | 0100  | 0759 B  | 33334 |        | 2605 | 14808 |
| 124 | 0125  | 0748    | 33576 |        | 2625 | 14811 |
| 124 | 0150  | 0723 B  | 33766 |        | 2644 | 14808 |
| 124 | 0175  | 0699 B  | 33879 |        | 2656 | 14804 |
| 124 | 0200  | 0670    | 33912 |        | 2662 | 14797 |
| 124 | 0250  | 0622 B  | 33933 |        | 2670 | 14787 |
| 124 | 0300  | 0549    | 33918 |        | 2678 | 14765 |
| 124 | 0400  | 0479    | 33978 |        | 2691 | 14754 |

## I N T E R P O L A T E D

| DEPTH | T E M P | S A L | OXYGEN | SGMT | SOUND | DELTA-D | POT.EN | SVA  |
|-------|---------|-------|--------|------|-------|---------|--------|------|
| 0000  | 1590    | 31891 |        | 2340 | 15064 | 0000    | 00000  | 4488 |
| 0010  | 1580    | 31899 |        | 2343 | 15063 | 0045    | 00002  | 4463 |
| 0020  | 1450    | 31864 |        | 2369 | 15023 | 0089    | 00009  | 4224 |
| 0030  | 1086    | 31860 |        | 2438 | 14900 | 0128    | 00019  | 3563 |
| 0050  | 0807    | 32453 |        | 2529 | 14807 | 0191    | 00044  | 2700 |
| 0075  | 0761    | 32810 |        | 2563 | 14798 | 0254    | 00084  | 2375 |
| 0100  | 0759 B  | 33334 |        | 2605 | 14808 | 0309    | 00133  | 1986 |
| 0125  | 0748    | 33576 |        | 2625 | 14811 | 0357    | 00187  | 1795 |
| 0150  | 0723 B  | 33766 |        | 2644 | 14808 | 0400    | 00248  | 1624 |
| 0175  | 0699 B  | 33879 |        | 2656 | 14804 | 0440    | 00313  | 1511 |
| 0200  | 0670    | 33912 |        | 2662 | 14797 | 0477    | 00385  | 1452 |
| 0225  | 0647 B  | 33929 |        | 2667 | 14792 | 0513    | 00464  | 1413 |
| 0250  | 0622 B  | 33933 |        | 2670 | 14787 | 0548    | 00549  | 1361 |
| 0300  | 0549    | 33918 |        | 2678 | 14765 | 0616    | 00740  | 1308 |
| 0400  | 0479    | 33978 |        | 2691 | 14754 | 0742    | 01191  | 1192 |



## SECTION IV

Bathymothermograms



EXPLANATION OF DATA HEADINGS IN TABLES 1 AND 2

|                        |  |
|------------------------|--|
| CON No:                | The consecutive BT slide number.   |
| LAT: }<br>LONG: }      | Deg<br>Min<br>Position of platform at time of BT lowering.   |
| DATE: Day<br>Mon<br>Yr | Day<br>Month<br>Year   |
| GMT: Hrs<br>Min        | The Greenwich Mean Time at which the BT<br>lowering was made.  |
| DEPTH: Metres          | Depth to bottom in metres, as read from U.S.<br>Coast and Geodetic Survey Chart 8500.  |
| BAR: Mbs               | Barometric pressure; prefix all listed<br>values by 10 or by 9 if a minus (-) sign<br>is present to obtain the pressure in whole<br>millibars.<br><br>eg. 02 = 1002 mbs<br>17 = 1017 mbs<br>-98 = 998 mbs<br>-86 = 986 mbs |
| WW Code:               | Refer to Table 7, Section II   |
| WIND Amt:              | Wind speed in meters per second  |
| W-1: }<br>W-2: }       | P<br>H<br>Waves 1 and 2. Refer to Tables 4&5, Section II   |
| CLOUD: T<br>A          | Refer to Tables 8&9, Section II  |





CCGS "VANCOUVER" 02-67-005

BATHYTHERMOGRAMS



TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | Wv/<br>Code | WIND<br>Am | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|-------------|------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |             |            | P   | H  | P   | H | I     | A |
| 001       | 49  | 55  | 144  | 50  | 05   | 07  | 67 | 18  | 54  | 4023            | 19         | 53          | 21         | 25  | 36 | 7   | 8 |       |   |
| 002       | 49  | 57  | 144  | 58  | 05   | 07  | 67 | 21  | 00  | 4023            | 19         | 10          | 20         | 25  | 36 | 7   | 8 |       |   |
| 003       | 50  | 01  | 145  | 06  | 06   | 07  | 67 | 00  | 00  | 4023            | 18         | 05          | 20         | 25  | 36 | 7   | 8 |       |   |
| 004       | 49  | 57  | 145  | 02  | 06   | 07  | 67 | 03  | 00  | 4023            | 20         | 10          | 16         | 34  | 33 | 7   | 8 |       |   |
| 005       | 50  | 02  | 144  | 55  | 06   | 07  | 67 | 06  | 00  | 4206            | 19         | 10          | 19         | 34  | 52 | 7   | 8 |       |   |
| 006       | 50  | 02  | 145  | 07  | 06   | 07  | 67 | 09  | 00  | 4206            | 18         | 51          | 16         | 23  | XX | 7   | 8 |       |   |
| 007       | 50  | 01  | 145  | 02  | 06   | 07  | 67 | 12  | 00  | 4206            | 18         | 10          | 20         | 23  | XX | 6   | 6 |       |   |
| 008       | 50  | 04  | 144  | 56  | 06   | 07  | 67 | 15  | 00  | 4206            | 18         | 10          | 28         | 33  | 22 | 6   | 8 |       |   |
| 009       | 50  | 06  | 144  | 45  | 06   | 07  | 67 | 18  | 00  | 4206            | 17         | 10          | 21         | 36  | XX | 7   | 8 |       |   |
| 010       | 50  | 00  | 145  | 06  | 06   | 07  | 67 | 21  | 00  | 4206            | 19         | 10          | 22         | 45  | 33 | 6   | 8 |       |   |
| 011       | 50  | 00  | 145  | 03  | 07   | 07  | 67 | 00  | 00  | 4206            | 18         | 61          | 21         | 33  | 35 | 7   | 8 |       |   |
| 012       | 50  | 01  | 144  | 56  | 07   | 07  | 67 | 03  | 00  | 4206            | 18         | 10          | 22         | 45  | 33 | 7   | 8 |       |   |
| 013       | 50  | 04  | 144  | 48  | 07   | 07  | 67 | 06  | 00  | 4206            | 17         | 10          | 17         | 35  | 33 | 7   | 8 |       |   |
| 014       | 50  | 01  | 145  | 02  | 07   | 07  | 67 | 09  | 00  | 4206            | 17         | 10          | 22         | 35  | XX | 7   | 8 |       |   |
| 015       | 49  | 56  | 145  | 03  | 07   | 07  | 67 | 12  | 00  | 4206            | 17         | 51          | 18         | 34  | 46 | 7   | 8 |       |   |
| 016       | 49  | 58  | 144  | 58  | 07   | 07  | 67 | 15  | 00  | 4206            | 18         | 15          | 15         | 33  | 44 | 8   | 7 |       |   |
| 017       | 49  | 59  | 144  | 51  | 07   | 07  | 67 | 18  | 00  | 4206            | 18         | 02          | 12         | 33  | 33 | 7   | 7 |       |   |
| 018       | 50  | 01  | 144  | 49  | 07   | 07  | 67 | 21  | 00  | 4206            | 19         | 02          | 13         | 22  | 22 | 6   | 7 |       |   |
| 019       | 50  | 01  | 144  | 47  | 08   | 07  | 67 | 00  | 00  | 4206            | 19         | 02          | 10         | 33  | 22 | 6   | 7 |       |   |
| 020       | 50  | 01  | 145  | 02  | 08   | 07  | 67 | 03  | 00  | 4206            | 18         | 02          | 13         | 33  | 22 | 6   | 8 |       |   |
| 021       | 50  | 03  | 144  | 56  | 08   | 07  | 67 | 06  | 00  | 4206            | 18         | 02          | 11         | 33  | 32 | 6   | 8 |       |   |
| 022       | 49  | 59  | 145  | 01  | 08   | 07  | 67 | 09  | 00  | 4206            | 18         | 02          | 12         | 33  | XX | 6   | 8 |       |   |
| 023       | 50  | 03  | 144  | 56  | 08   | 07  | 67 | 12  | 00  | 4206            | 17         | 61          | 14         | 22  | XX | 7   | 8 |       |   |
| 024       | 50  | 03  | 144  | 57  | 08   | 07  | 67 | 15  | 00  | 4206            | 17         | 51          | 15         | 22  | 32 | 7   | 8 |       |   |
| 025       | 50  | 03  | 144  | 51  | 08   | 07  | 67 | 18  | 00  | 4206            | 18         | 10          | 15         | 33  | 32 | 7   | 8 |       |   |

TABLE 1

| TIME<br>Hr | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W-1 |    | W-2 |   | CLOUD |   |
|------------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|            | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hr  | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 026        | 50  | 05  | 144  | 49  | 08   | 07  | 67 | 21  | 00  | 4206            | 19         | 10         | 17          | 33  | 32 | 7   | 8 |       |   |
| 027        | 50  | 02  | 144  | 54  | 09   | 07  | 67 | 00  | 00  | 4206            | 19         | 10         | 23          | 32  | 32 | 7   | 8 |       |   |
| 028        | 50  | 04  | 145  | 07  | 09   | 07  | 67 | 03  | 00  | 4206            | 19         | 51         | 18          | 33  | 33 | 7   | 8 |       |   |
| 029        | 50  | 05  | 145  | 01  | 09   | 07  | 67 | 06  | 00  | 4206            | 19         | 10         | 23          | 33  | 33 | 7   | 8 |       |   |
| 030        | 50  | 04  | 145  | 07  | 09   | 07  | 67 | 09  | 00  | 4206            | 19         | 10         | 19          | 33  | XX | 7   | 8 |       |   |
| 031        | 50  | 03  | 145  | 05  | 09   | 07  | 67 | 12  | 00  | 4206            | 18         | 10         | 14          | 22  | XX | 7   | 8 |       |   |
| 032        | 50  | 04  | 145  | 01  | 09   | 07  | 67 | 15  | 00  | 4206            | 18         | 10         | 14          | 33  | 33 | 7   | 8 |       |   |
| 033        | 50  | 05  | 144  | 55  | 09   | 07  | 67 | 18  | 00  | 4206            | 17         | 51         | 10          | 33  | 33 | 7   | 8 |       |   |
| 034        | 50  | 06  | 144  | 52  | 09   | 07  | 67 | 21  | 00  | 4206            | 16         | 10         | 11          | 22  | 33 | 7   | 8 |       |   |
| 035        | 50  | 05  | 144  | 47  | 10   | 07  | 67 | 00  | 00  | 4206            | 15         | 10         | 09          | 22  | 33 | 7   | 8 |       |   |
| 036        | 50  | 01  | 145  | 06  | 10   | 07  | 67 | 03  | 00  | 4206            | 14         | 61         | 09          | 22  | 33 | 7   | 8 |       |   |
| 037        | 50  | 01  | 145  | 02  | 10   | 07  | 67 | 06  | 00  | 4206            | 13         | 51         | 09          | 22  | 22 | 7   | 8 |       |   |
| 038        | 50  | 04  | 144  | 53  | 10   | 07  | 67 | 09  | 00  | 4206            | 14         | 10         | 13          | 22  | XX | 7   | 8 |       |   |
| 039        | 50  | 00  | 144  | 53  | 10   | 07  | 67 | 12  | 00  | 4206            | 14         | 02         | 15          | 22  | XX | 6   | 8 |       |   |
| 040        | 50  | 00  | 145  | 00  | 10   | 07  | 67 | 15  | 00  | 4206            | 15         | 15         | 16          | 22  | 32 | 8   | 7 |       |   |
| 041        | 50  | 00  | 144  | 55  | 10   | 07  | 67 | 18  | 00  | 4206            | 15         | 02         | 20          | 33  | 22 | 6   | 7 |       |   |
| 042        | 50  | 00  | 144  | 52  | 10   | 07  | 67 | 21  | 00  | 4206            | 15         | 02         | 21          | 33  | 22 | 8   | 8 |       |   |
| 043        | 50  | 00  | 144  | 56  | 11   | 07  | 67 | 00  | 00  | 4206            | 15         | 01         | 22          | 33  | 22 | 8   | 4 |       |   |
| 044        | 50  | 01  | 145  | 03  | 11   | 07  | 67 | 03  | 00  | 4206            | 13         | 03         | 19          | 33  | 22 | 6   | 7 |       |   |
| 045        | 50  | 02  | 144  | 57  | 11   | 07  | 67 | 06  | 00  | 4206            | 13         | 25         | 21          | 33  | 32 | 6   | 7 |       |   |
| 046        | 50  | 03  | 144  | 49  | 11   | 07  | 67 | 09  | 00  | 4206            | 14         | 02         | 15          | 33  | XX | 6   | 5 |       |   |
| 047        | 50  | 01  | 144  | 53  | 11   | 07  | 67 | 12  | 00  | 4206            | 14         | 02         | 17          | 33  | XX | 8   | 4 |       |   |
| 048        | 50  | 02  | 144  | 59  | 11   | 07  | 67 | 15  | 00  | 4206            | 14         | 51         | 16          | 32  | 33 | 6   | 8 |       |   |
| 049        | 49  | 58  | 144  | 55  | 11   | 07  | 67 | 18  | 00  | 4206            | 15         | 51         | 21          | 32  | 33 | 7   | 8 |       |   |
| 050        | 50  | 00  | 144  | 59  | 11   | 07  | 67 | 21  | 00  | 4206            | 16         | 60         | 16          | 32  | 33 | 3   | 8 |       |   |



TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 051       | 50  | 01  | 144  | 58  | 12   | 07  | 67 | 00  | 00  | 4206            | 16         | 02         | 15          | 33  | 33 | 6   | 8 |       |   |
| 052       | 50  | 00  | 144  | 52  | 12   | 07  | 67 | 03  | 00  | 4206            | 16         | 02         | 13          | 33  | 32 | 6   | 8 |       |   |
| 053       | 50  | 03  | 144  | 56  | 12   | 07  | 67 | 06  | 00  | 4206            | 15         | 02         | 14          | 22  | 32 | 6   | 7 |       |   |
| 054       | 50  | 01  | 145  | 02  | 12   | 07  | 67 | 09  | 00  | 4206            | 15         | 02         | 09          | 22  | XX | 6   | 8 |       |   |
| 055       | 50  | 01  | 144  | 56  | 12   | 07  | 67 | 12  | 00  | 4206            | 14         | 02         | 12          | 22  | XX | 6   | 8 |       |   |
| 056       | 50  | 00  | 144  | 56  | 12   | 07  | 67 | 15  | 00  | 4206            | 15         | 02         | 13          | 22  | 32 | 6   | 7 |       |   |
| 057       | 49  | 58  | 144  | 52  | 12   | 07  | 67 | 18  | 00  | 4206            | 15         | 02         | 10          | 32  | 22 | 6   | 6 |       |   |
| 058       | 50  | 01  | 145  | 03  | 12   | 07  | 67 | 21  | 00  | 4206            | 14         | 02         | 10          | 22  | 22 | 6   | 8 |       |   |
| 059       | 50  | 02  | 145  | 00  | 13   | 07  | 67 | 00  | 00  | 4206            | 14         | 02         | 09          | 22  | 23 | 6   | 8 |       |   |
| 060       | 50  | 02  | 144  | 57  | 13   | 07  | 67 | 03  | 00  | 4206            | 14         | 02         | 10          | 22  | 22 | 8   | 7 |       |   |
| 061       | 50  | 00  | 144  | 49  | 13   | 07  | 67 | 06  | 00  | 4206            | 14         | 02         | 13          | 22  | 22 | 8   | 6 |       |   |
| 062       | 50  | 00  | 145  | 08  | 13   | 07  | 67 | 09  | 00  | 4206            | 16         | 02         | 19          | 22  | XX | 8   | 8 |       |   |
| 063       | 50  | 02  | 145  | 00  | 13   | 07  | 67 | 12  | 00  | 4206            | 16         | 02         | 15          | 23  | XX | 6   | 5 |       |   |
| 064       | 49  | 59  | 145  | 02  | 13   | 07  | 67 | 15  | 00  | 4206            | 17         | 02         | 15          | 22  | 22 | 6   | 7 |       |   |
| 065       | 50  | 00  | 145  | 05  | 13   | 07  | 67 | 18  | 00  | 4206            | 18         | 15         | 19          | 22  | 22 | 8   | 7 |       |   |
| 066       | 49  | 58  | 145  | 05  | 13   | 07  | 67 | 21  | 00  | 4206            | 19         | 02         | 16          | 22  | 22 | 7   | 8 |       |   |
| 067       | 49  | 56  | 145  | 04  | 14   | 07  | 67 | 00  | 00  | 4206            | 20         | 02         | 13          | 22  | 22 | 6   | 7 |       |   |
| 068       | 49  | 56  | 145  | 02  | 14   | 07  | 67 | 03  | 00  | 4206            | 20         | 02         | 09          | 22  | 22 | 6   | 8 |       |   |
| 069       | 49  | 59  | 145  | 04  | 14   | 07  | 67 | 06  | 00  | 4206            | 21         | 02         | 08          | 22  | 22 | 6   | 8 |       |   |
| 070       | 49  | 59  | 145  | 04  | 14   | 07  | 67 | 09  | 00  | 4206            | 21         | 02         | 03          | 21  | XX | 6   | 8 |       |   |
| 071       | 50  | 04  | 145  | 04  | 14   | 07  | 67 | 12  | 00  | 4206            | 22         | 02         | 07          | 21  | XX | 6   | 8 |       |   |
| 072       | 49  | 58  | 145  | 05  | 14   | 07  | 67 | 15  | 00  | 4206            | 22         | 02         | 09          | 21  | 32 | 6   | 8 |       |   |
| 073       | 50  | 02  | 145  | 02  | 14   | 07  | 67 | 18  | 00  | 4206            | 23         | 02         | 09          | 21  | 32 | 6   | 7 |       |   |
| 074       | 49  | 59  | 145  | 03  | 14   | 07  | 67 | 21  | 00  | 4206            | 23         | 02         | 11          | 21  | 32 | 8   | 8 |       |   |
| 075       | 50  | 00  | 145  | 01  | 15   | 07  | 67 | 00  | 00  | 4206            | 24         | 02         | 13          | 22  | 32 | 6   | 7 |       |   |

TABLE 1

| STATION<br>No. | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Am't | W 1 |    | W 2 |   | CLOUD |   |
|----------------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|--------------|-----|----|-----|---|-------|---|
|                | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |              | P   | H  | P   | H | T     | A |
| 076            | 49  | 54  | 144  | 58  | 15   | 07  | 67 | 03  | 00  | 4206            | 24         | 02         | 10           | 22  | 32 | 6   | 8 |       |   |
| 077            | 50  | 03  | 145  | 00  | 15   | 07  | 67 | 06  | 00  | 4206            | 25         | 02         | 21           | 33  | XX | 6   | 8 |       |   |
| 078            | 49  | 57  | 144  | 58  | 15   | 07  | 67 | 09  | 00  | 4206            | 25         | 02         | 10           | 22  | XX | 6   | 8 |       |   |
| 079            | 49  | 59  | 144  | 53  | 15   | 07  | 67 | 12  | 00  | 4206            | 26         | 02         | 14           | 22  | XX | 6   | 8 |       |   |
| 080            | 49  | 58  | 144  | 49  | 15   | 07  | 67 | 15  | 00  | 4206            | 27         | 02         | 16           | 22  | 32 | 7   | 8 |       |   |
| 081            | 50  | 02  | 145  | 00  | 15   | 07  | 67 | 18  | 00  | 4206            | 27         | 02         | 19           | 22  | 32 | 6   | 8 |       |   |
| 082            | 50  | 00  | 145  | 00  | 15   | 07  | 67 | 21  | 00  | 4206            | 28         | 02         | 13           | 22  | 32 | 6   | 8 |       |   |
| 083            | 50  | 01  | 144  | 59  | 16   | 07  | 67 | 00  | 00  | 4206            | 27         | 02         | 13           | 22  | 32 | 6   | 8 |       |   |
| 084            | 49  | 56  | 144  | 57  | 16   | 07  | 67 | 03  | 00  | 4206            | 26         | 02         | 15           | 22  | 32 | 6   | 8 |       |   |
| 085            | 49  | 59  | 145  | 03  | 16   | 07  | 67 | 06  | 00  | 4206            | 25         | 02         | 15           | 22  | 33 | 6   | 8 |       |   |
| 086            | 49  | 57  | 145  | 00  | 16   | 07  | 67 | 09  | 00  | 4206            | 23         | 80         | 17           | 22  | XX | 6   | 8 |       |   |
| 087            | 49  | 58  | 145  | 00  | 16   | 07  | 67 | 12  | 00  | 4206            | 21         | 51         | 16           | 22  | XX | 7   | 8 |       |   |
| 088            | 50  | 01  | 145  | 03  | 16   | 07  | 67 | 15  | 00  | 4206            | 19         | 15         | 18           | 33  | XX | 8   | 8 |       |   |
| 089            | 49  | 59  | 144  | 56  | 16   | 07  | 67 | 18  | 00  | 4206            | 18         | 02         | 16           | 33  | 22 | 8   | 7 |       |   |
| 090            | 49  | 56  | 144  | 52  | 16   | 07  | 67 | 21  | 00  | 4206            | 18         | 10         | 21           | 33  | 22 | 7   | 8 |       |   |
| 091            | 49  | 58  | 144  | 55  | 17   | 07  | 67 | 00  | 00  | 4206            | 17         | 10         | 17           | 33  | XX | 7   | 7 |       |   |
| 092            | 49  | 58  | 144  | 55  | 17   | 07  | 67 | 03  | 00  | 4206            | 16         | 50         | 19           | 33  | 22 | 7   | 8 |       |   |
| 093            | 52  | 02  | 145  | 00  | 17   | 07  | 67 | 06  | 00  | 4206            | 15         | 50         | 14           | 33  | 32 | X   | 9 |       |   |
| 094            | 50  | 00  | 144  | 54  | 17   | 07  | 67 | 09  | 00  | 4206            | 13         | 10         | 17           | 33  | XX | 7   | 8 |       |   |
| 095            | 49  | 58  | 144  | 48  | 17   | 07  | 67 | 12  | 00  | 4206            | 11         | 10         | 17           | 33  | XX | 7   | 8 |       |   |
| 096            | 50  | 04  | 145  | 00  | 17   | 07  | 67 | 15  | 00  | 4206            | 09         | 02         | 17           | 33  | 33 | 6   | 8 |       |   |
| 097            | 50  | 01  | 145  | 02  | 17   | 07  | 67 | 18  | 00  | 4206            | 10         | 02         | 24           | 33  | 33 | 7   | 8 |       |   |
| 098            | 50  | 00  | 145  | 02  | 17   | 07  | 67 | 21  | 00  | 4206            | 11         | 02         | 18           | 22  | 32 | 8   | 8 |       |   |
| 099            | 49  | 59  | 145  | 01  | 18   | 07  | 67 | 00  | 00  | 4206            | 11         | 02         | 17           | 22  | 32 | 8   | 8 |       |   |
| 100            | 49  | 55  | 144  | 55  | 18   | 07  | 67 | 03  | 00  | 4206            | 11         | 02         | 14           | 33  | 22 | 6   | 8 |       |   |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W-1 |   | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 101       | 49  | 58  | 144  | 58  | 18   | 07  | 67 | 06  | 00  | 4206            | 11         | 02         | 13          | 33  |   | 33  |   | 6     | 8 |
| 102       | 50  | 02  | 145  | 02  | 18   | 07  | 67 | 09  | 00  | 4206            | 11         | 02         | 18          | 33  |   | XX  |   | 6     | 8 |
| 103       | 50  | 03  | 145  | 04  | 18   | 07  | 67 | 12  | 00  | 4206            | 11         | 02         | 15          | 33  |   | XX  |   | 6     | 8 |
| 104       | 50  | 00  | 145  | 00  | 18   | 07  | 67 | 15  | 00  | 4206            | 11         | 15         | 12          | 22  |   | 33  |   | 8     | 7 |
| 105       | 50  | 03  | 145  | 05  | 18   | 07  | 67 | 18  | 00  | 4206            | 12         | 02         | 13          | 33  |   | XX  |   | 6     | 6 |
| 106       | 50  | 03  | 145  | 04  | 18   | 07  | 67 | 21  | 00  | 4206            | 13         | 02         | 10          | 22  |   | 33  |   | 6     | 7 |
| 107       | 50  | 04  | 145  | 02  | 19   | 07  | 67 | 00  | 00  | 4206            | 14         | 02         | 07          | 22  |   | 22  |   | 8     | 8 |
| 108       | 50  | 04  | 144  | 59  | 19   | 07  | 67 | 03  | 00  | 4206            | 14         | 02         | 05          | 21  |   | 32  |   | 6     | 8 |
| 109       | 50  | 05  | 144  | 56  | 19   | 07  | 67 | 06  | 00  | 4206            | 14         | 02         | 03          | 21  |   | 22  |   | 6     | 8 |
| 110       | 50  | 01  | 145  | 00  | 19   | 07  | 67 | 09  | 00  | 4206            | 15         | 10         | 05          | X0  |   | 32  |   | 7     | 8 |
| 111       | 49  | 59  | 144  | 53  | 19   | 07  | 67 | 12  | 00  | 4206            | 16         | 10         | 05          | X0  |   | 32  |   | 7     | 8 |
| 112       | 50  | 02  | 144  | 57  | 19   | 07  | 67 | 15  | 00  | 4206            | 16         | 02         | 01          | X0  |   | 32  |   | 7     | 8 |
| 113       | 50  | 01  | 144  | 59  | 19   | 07  | 67 | 18  | 00  | 4206            | 17         | 10         | 03          | X0  |   | 32  |   | 8     | 8 |
| 114       | 50  | 01  | 144  | 57  | 19   | 07  | 67 | 21  | 00  | 4206            | 18         | 01         | 03          | X0  |   | 32  |   | 8     | 7 |
| 115       | 49  | 59  | 144  | 53  | 20   | 07  | 67 | 00  | 00  | 4206            | 19         | 02         | 05          | X0  |   | 32  |   | 6     | 8 |
| 116       | 49  | 58  | 144  | 52  | 20   | 07  | 67 | 03  | 00  | 4206            | 20         | 61         | 03          | 20  |   | 42  |   | 6     | 7 |
| 117       | 49  | 52  | 144  | 50  | 20   | 07  | 67 | 06  | 00  | 4206            | 21         | 02         | 05          | 20  |   | 32  |   | 6     | 8 |
| 118       | 50  | 01  | 145  | 07  | 20   | 07  | 67 | 09  | 00  | 4206            | 21         | 10         | 10          | 22  |   | XX  |   | 6     | 8 |
| 119       | 49  | 58  | 145  | 02  | 20   | 07  | 67 | 12  | 00  | 4206            | 21         | 61         | 12          | 22  |   | XX  |   | 7     | 8 |
| 120       | 49  | 58  | 145  | 00  | 20   | 07  | 67 | 15  | 00  | 4206            | 22         | 51         | 13          | 22  |   | 32  |   | X     | 9 |
| 121       | 49  | 58  | 145  | 00  | 20   | 07  | 67 | 18  | 00  | 4206            | 22         | 10         | 12          | 32  |   | 22  |   | 7     | 8 |
| 122       | 49  | 58  | 144  | 57  | 20   | 07  | 67 | 21  | 00  | 4206            | 23         | 47         | 12          | 32  |   | 22  |   | X     | 9 |
| 123       | 49  | 56  | 144  | 58  | 21   | 07  | 67 | 00  | 00  | 4206            | 23         | 10         | 12          | 32  |   | 22  |   | 7     | 8 |
| 124       | 49  | 50  | 144  | 55  | 21   | 07  | 67 | 03  | 00  | 4206            | 24         | 10         | 12          | 32  |   | 32  |   | 7     | 8 |
| 125       | 50  | 01  | 145  | 00  | 21   | 07  | 67 | 06  | 00  | 4206            | 25         | 10         | 10          | 22  |   | 32  |   | 7     | 8 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH  | BAR | WW   | WIND | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|--------|-----|------|------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min | Metres | Mbs | Code | Amt  | P   | H  | P   | H | T     | A |
| 126       | 49  | 59  | 145  | 03  | 21   | 07  | 67 | 09  | 00  | 4206   | 26  | 10   | 13   | 22  | XX |     |   | 7     | 8 |
| 127       | 49  | 57  | 145  | 04  | 21   | 07  | 67 | 12  | 00  | 4206   | 27  | 10   | 15   | 22  | XX |     |   | 7     | 8 |
| 128       | 49  | 55  | 145  | 00  | 21   | 07  | 67 | 15  | 00  | 4206   | 27  | 02   | 12   | 22  | 32 |     |   | 6     | 6 |
| 129       | 49  | 59  | 145  | 01  | 21   | 07  | 67 | 18  | 00  | 4206   | 28  | 28   | 13   | 22  | 32 |     |   | 6     | 8 |
| 130       | 49  | 55  | 145  | 00  | 21   | 07  | 67 | 21  | 00  | 4206   | 28  | 28   | 13   | 22  | 32 |     |   | 7     | 8 |
| 131       | 49  | 55  | 144  | 59  | 22   | 07  | 67 | 00  | 00  | 4206   | 28  | 45   | 17   | 23  | 32 |     |   | X     | 9 |
| 132       | 49  | 55  | 144  | 59  | 22   | 07  | 67 | 03  | 00  | 4206   | 28  | 10   | 14   | 33  | 32 |     |   | 7     | 8 |
| 133       | 49  | 59  | 145  | 02  | 22   | 07  | 67 | 06  | 20  | 4206   | 26  | 28   | 18   | 23  | 33 |     |   | 7     | 8 |
| 134       | 50  | 00  | 145  | 06  | 22   | 07  | 67 | 09  | 00  | 4206   | 26  | 61   | 19   | 23  | XX |     |   | 7     | 8 |
| 135       | 49  | 55  | 145  | 03  | 22   | 07  | 67 | 12  | 00  | 4206   | 26  | 51   | 19   | 23  | XX |     |   | 7     | 8 |
| 136       | 49  | 52  | 145  | 04  | 22   | 07  | 65 | 15  | 00  | 4206   | 26  | 10   | 19   | 23  | 33 |     |   | 7     | 8 |
| 137       | 50  | 00  | 145  | 05  | 22   | 07  | 67 | 18  | 00  | 4206   | 26  | 10   | 16   | 23  | 33 |     |   | 7     | 8 |
| 138       | 49  | 59  | 145  | 05  | 22   | 07  | 67 | 21  | 00  | 4206   | 26  | 02   | 20   | 23  | 33 |     |   | 7     | 8 |
| 139       | 49  | 58  | 145  | 06  | 23   | 07  | 67 | 00  | 00  | 4206   | 26  | 02   | 16   | 23  | 33 |     |   | 7     | 8 |
| 140       | 50  | 01  | 145  | 04  | 23   | 07  | 67 | 03  | 00  | 4206   | 25  | 02   | 17   | 23  | 33 |     |   | 7     | 8 |
| 141       | 49  | 58  | 145  | 05  | 23   | 07  | 67 | 06  | 00  | 4206   | 26  | 02   | 17   | 23  | 33 |     |   | 7     | 8 |
| 142       | 49  | 54  | 145  | 05  | 23   | 07  | 67 | 09  | 00  | 4206   | 26  | 50   | 18   | 23  | XX |     |   | 7     | 8 |
| 143       | 49  | 55  | 145  | 05  | 23   | 07  | 67 | 12  | 00  | 4206   | 25  | 50   | 15   | 22  | XX |     |   | 7     | 8 |
| 144       | 50  | 01  | 145  | 02  | 23   | 07  | 67 | 15  | 30  | 4206   | 25  | 47   | 15   | 22  | 33 |     |   | X     | 9 |
| 145       | 49  | 57  | 145  | 02  | 23   | 07  | 67 | 18  | 00  | 4206   | 25  | 47   | 13   | 22  | 33 |     |   | X     | 9 |
| 146       | 49  | 56  | 145  | 01  | 23   | 07  | 67 | 21  | 00  | 4206   | 25  | 47   | 15   | 22  | 33 |     |   | X     | 9 |
| 147       | 49  | 50  | 145  | 02  | 24   | 07  | 67 | 00  | 00  | 4206   | 24  | 45   | 17   | 23  | 33 |     |   | X     | 9 |
| 148       | 50  | 01  | 145  | 02  | 24   | 07  | 67 | 03  | 00  | 4206   | 24  | 28   | 17   | 23  | 33 |     |   | 3     | 3 |
| 149       | 49  | 57  | 145  | 01  | 24   | 07  | 67 | 06  | 00  | 4206   | 24  | 47   | 17   | 23  | XX |     |   | X     | 9 |
| 150       | 49  | 54  | 144  | 58  | 24   | 07  | 67 | 09  | 00  | 4206   | 25  | 51   | 17   | 23  | XX |     |   | 7     | 8 |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Am't | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|--------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |              | P   | H  | P   | H | T     | A |
| 151       | 50  | 00  | 144  | 58  | 24   | 07  | 67 | 12  | 00  | 4206            | 25         | 20         | 17           | 33  | XX |     |   | 7     | 8 |
| 152       | 49  | 55  | 145  | 01  | 24   | 07  | 67 | 15  | 00  | 4206            | 26         | 50         | 14           | 22  | 32 |     |   | 7     | 8 |
| 153       | 50  | 03  | 145  | 00  | 24   | 07  | 67 | 18  | 00  | 4206            | 27         | 02         | 12           | 22  | 32 |     |   | 7     | 8 |
| 154       | 50  | 03  | 145  | 00  | 24   | 07  | 67 | 21  | 00  | 4206            | 27         | 02         | 10           | 22  | 33 |     |   | 7     | 8 |
| 155       | 50  | 03  | 145  | 01  | 25   | 07  | 67 | 00  | 00  | 4206            | 28         | 02         | 09           | 22  | 32 |     |   | 6     | 8 |
| 156       | 50  | 00  | 145  | 00  | 25   | 07  | 67 | 03  | 00  | 4206            | 28         | 02         | 07           | 21  | 32 |     |   | 6     | 8 |
| 157       | 49  | 59  | 145  | 00  | 25   | 07  | 67 | 06  | 00  | 4206            | 28         | 02         | 08           | 21  | 32 |     |   | 6     | 8 |
| 158       | 49  | 59  | 145  | 00  | 25   | 07  | 67 | 09  | 00  | 4206            | 29         | 02         | 04           | 21  | XX |     |   | 7     | 8 |
| 159       | 50  | 00  | 144  | 59  | 25   | 07  | 67 | 12  | 00  | 4206            | 29         | 02         | 03           | 21  | XX |     |   | 7     | 8 |
| 160       | 49  | 56  | 145  | 00  | 25   | 07  | 67 | 15  | 00  | 4206            | 29         | 45         | 06           | 21  | 32 |     |   | X     | 9 |
| 161       | 50  | 02  | 145  | 01  | 25   | 07  | 67 | 18  | 00  | 4206            | 29         | 45         | 10           | 21  | 32 |     |   | X     | 9 |
| 162       | 50  | 02  | 145  | 01  | 25   | 07  | 67 | 21  | 00  | 4206            | 29         | 45         | 08           | 21  | 32 |     |   | X     | 9 |
| 163       | 50  | 02  | 145  | 00  | 26   | 07  | 67 | 00  | 00  | 4206            | 28         | 28         | 09           | 21  | 32 |     |   | 7     | 8 |
| 164       | 50  | 03  | 144  | 56  | 26   | 07  | 67 | 03  | 00  | 4206            | 28         | 10         | 10           | 21  | 32 |     |   | 7     | 7 |
| 165       | 50  | 02  | 144  | 52  | 26   | 07  | 67 | 06  | 00  | 4206            | 27         | 45         | 12           | 21  | 32 |     |   | X     | 9 |
| 166       | 50  | 01  | 144  | 48  | 26   | 07  | 65 | 09  | 00  | 4206            | 28         | 51         | 12           | 32  | 21 |     |   | X     | 9 |
| 167       | 50  | 02  | 144  | 50  | 26   | 07  | 67 | 12  | 00  | 4206            | 27         | 10         | 14           | 32  | XX |     |   | 7     | 8 |
| 168       | 50  | 02  | 145  | 00  | 26   | 07  | 67 | 15  | 00  | 4206            | 26         | 02         | 10           | 32  | 32 |     |   | 7     | 7 |
| 169       | 50  | 02  | 144  | 56  | 26   | 07  | 67 | 18  | 00  | 4206            | 25         | 46         | 15           | 22  | 32 |     |   | 7     | 8 |
| 170       | 50  | 02  | 144  | 51  | 26   | 07  | 67 | 21  | 00  | 4206            | 24         | 28         | 14           | 22  | 32 |     |   | 7     | 8 |
| 171       | 50  | 03  | 144  | 56  | 27   | 07  | 67 | 00  | 00  | 4206            | 23         | 10         | 12           | 22  | 32 |     |   | 7     | 7 |
| 172       | 49  | 59  | 144  | 57  | 27   | 07  | 67 | 03  | 00  | 4206            | 21         | 10         | 15           | 22  | 32 |     |   | 7     | 8 |
| 173       | 50  | 01  | 145  | 04  | 27   | 07  | 67 | 06  | 00  | 4206            | 20         | 51         | 19           | 22  | 32 |     |   | 7     | 8 |
| 174       | 50  | 00  | 145  | 01  | 27   | 07  | 67 | 08  | 00  | 4206            | 19         | 51         | 19           | 22  | XX |     |   | 7     | 8 |
| 175       | 50  | 02  | 144  | 58  | 27   | 07  | 67 | 12  | 00  | 4206            | 18         | 51         | 23           | 22  | XX |     |   | 7     | 8 |



TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Am't | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|--------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |              | P   | H  | P   | H | I     | A |
| 176       | 49  | 52  | 144  | 56  | 27   | 07  | 67 | 15  | 00  | 4206            | 18         | 02         | 17           | 33  | 22 | 6   | 7 |       |   |
| 177       | 50  | 00  | 145  | 02  | 27   | 07  | 67 | 18  | 00  | 4206            | 18         | 02         | 15           | 33  | 22 | 6   | 7 |       |   |
| 178       | 49  | 58  | 145  | 02  | 27   | 07  | 67 | 21  | 00  | 4206            | 18         | 15         | 09           | 22  | 33 | 8   | 8 |       |   |
| 179       | 49  | 59  | 145  | 03  | 28   | 07  | 67 | 00  | 00  | 4206            | 17         | 02         | 15           | 22  | 32 | 8   | 8 |       |   |
| 180       | 49  | 54  | 145  | 05  | 28   | 07  | 67 | 03  | 00  | 4206            | 16         | 02         | 16           | 33  | 32 | 8   | 8 |       |   |
| 181       | 50  | 02  | 145  | 04  | 28   | 07  | 67 | 06  | 00  | 4206            | 16         | 02         | 15           | 32  | 33 | 8   | 8 |       |   |
| 182       | 49  | 59  | 145  | 02  | 28   | 07  | 67 | 09  | 00  | 4206            | 16         | 02         | 15           | 33  | 32 | 8   | 8 |       |   |
| 183       | 49  | 59  | 145  | 01  | 28   | 07  | 67 | 12  | 00  | 4206            | 16         | 02         | 14           | 33  | 33 | 6   | 8 |       |   |
| 184       | 50  | 02  | 144  | 58  | 28   | 07  | 67 | 15  | 00  | 4206            | 16         | 80         | 12           | 32  | 33 | 8   | 8 |       |   |
| 185       | 49  | 59  | 145  | 02  | 28   | 07  | 67 | 18  | 00  | 4206            | 16         | 15         | 08           | 32  | 32 | 8   | 8 |       |   |
| 186       | 49  | 59  | 145  | 02  | 28   | 07  | 67 | 21  | 00  | 4206            | 16         | 25         | 16           | 22  | 32 | 8   | 8 |       |   |
| 187       | 50  | 00  | 145  | 01  | 29   | 07  | 67 | 00  | 00  | 4206            | 15         | 02         | 04           | 21  | 22 | 6   | 8 |       |   |
| 188       | 49  | 58  | 145  | 00  | 29   | 07  | 67 | 03  | 00  | 4206            | 15         | 02         | 06           | 21  | 32 | 6   | 8 |       |   |
| 189       | 50  | 00  | 145  | 01  | 29   | 07  | 67 | 06  | 00  | 4206            | 15         | 02         | 04           | 20  | 32 | 6   | 8 |       |   |
| 190       | 50  | 00  | 145  | 01  | 29   | 07  | 67 | 09  | 00  | 4206            | 16         | 02         | 03           | 20  | XX | 6   | 8 |       |   |
| 191       | 50  | 01  | 144  | 59  | 29   | 07  | 67 | 12  | 00  | 4206            | 16         | 02         | 04           | 21  | XX | 6   | 8 |       |   |
| 192       | 49  | 55  | 144  | 59  | 29   | 07  | 67 | 15  | 00  | 4206            | 16         | 02         | 07           | 21  | 32 | 8   | 8 |       |   |
| 193       | 50  | 02  | 144  | 57  | 29   | 07  | 67 | 18  | 00  | 4206            | 18         | 02         | 09           | 21  | 22 | 6   | 8 |       |   |
| 194       | 50  | 03  | 144  | 57  | 29   | 07  | 67 | 21  | 00  | 4206            | 18         | 02         | 07           | 21  | 32 | 6   | 7 |       |   |
| 195       | 50  | 05  | 144  | 58  | 30   | 07  | 67 | 00  | 00  | 4206            | 19         | 15         | 06           | 20  | 32 | 6   | 8 |       |   |
| 196       | 50  | 04  | 144  | 55  | 30   | 07  | 67 | 03  | 00  | 4206            | 19         | 51         | 07           | 21  | XX | 7   | 8 |       |   |
| 197       | 50  | 06  | 145  | 56  | 30   | 07  | 67 | 06  | 00  | 4206            | 19         | 02         | 03           | 20  | 31 | 6   | 8 |       |   |
| 198       | 49  | 58  | 145  | 05  | 30   | 07  | 67 | 09  | 00  | 4206            | 20         | 02         | 11           | 21  | 31 | 6   | 8 |       |   |
| 199       | 49  | 58  | 145  | 05  | 30   | 07  | 67 | 12  | 00  | 4206            | 20         | 02         | 08           | 21  | 31 | 6   | 8 |       |   |
| 200       | 50  | 01  | 145  | 07  | 30   | 07  | 67 | 15  | 00  | 4206            | 20         | 02         | 08           | 21  | 31 | 3   | 8 |       |   |

TABLE 1

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | V IN 1<br>Am I | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|----------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |                | P   | H  | P   | H | I     | A |
| 201       | 50  | 00  | 144  | 59  | 30   | 07  | 67 | 18  | 00  | 4206            | 21         | 02         | 07             | 21  | 31 | 6   | 7 |       |   |
| 202       | 50  | 00  | 145  | 00  | 30   | 07  | 67 | 21  | 00  | 4206            | 22         | 02         | 07             | 21  | 32 | 3   | 3 |       |   |
| 203       | 50  | 02  | 145  | 02  | 31   | 07  | 67 | 00  | 00  | 4206            | 23         | 02         | 06             | 20  | 31 | 8   | 8 |       |   |
| 204       | 50  | 04  | 145  | 05  | 31   | 07  | 67 | 03  | 00  | 4206            | 23         | 02         | 07             | 21  | 31 | 3   | 6 |       |   |
| 205       | 50  | 06  | 145  | 06  | 31   | 07  | 67 | 06  | 00  | 4206            | 24         | 02         | 07             | 21  | 21 | 3   | 6 |       |   |
| 206       | 50  | 04  | 145  | 06  | 31   | 07  | 67 | 09  | 00  | 4206            | 24         | 02         | 07             | 21  | 21 | 3   | 8 |       |   |
| 207       | 50  | 01  | 145  | 01  | 31   | 07  | 67 | 12  | 00  | 4206            | 24         | 02         | 07             | 21  | 21 | 3   | 8 |       |   |
| 208       | 50  | 01  | 145  | 06  | 31   | 07  | 67 | 15  | 00  | 4206            | 25         | 02         | 08             | 21  | 21 | 6   | 8 |       |   |
| 209       | 50  | 00  | 145  | 00  | 31   | 07  | 67 | 18  | 00  | 4206            | 26         | 02         | 01             | 20  | 21 | 6   | 7 |       |   |
| 210       | 50  | 02  | 144  | 59  | 31   | 07  | 67 | 21  | 00  | 4206            | 26         | 02         | 05             | 20  | 21 | 6   | 7 |       |   |
| 211       | 50  | 03  | 144  | 58  | 01   | 08  | 67 | 00  | 00  | 4206            | 26         | 02         | 02             | 20  | 32 | 6   | 4 |       |   |
| 212       | 50  | 04  | 144  | 58  | 01   | 08  | 67 | 03  | 00  | 4206            | 26         | 02         | 01             | 21  | 32 | 8   | 2 |       |   |
| 213       | 50  | 01  | 145  | 01  | 01   | 08  | 67 | 06  | 00  | 4206            | 26         | 02         | 03             | 21  | 32 | 3   | 3 |       |   |
| 214       | 50  | 02  | 145  | 01  | 01   | 08  | 67 | 09  | 00  | 4206            | 26         | 03         | 04             | 20  | 32 | 3   | 6 |       |   |
| 215       | 50  | 04  | 145  | 00  | 01   | 08  | 67 | 12  | 00  | 4206            | 26         | 02         | 04             | 21  | 32 | 6   | 6 |       |   |
| 216       | 50  | 00  | 145  | 04  | 01   | 08  | 67 | 15  | 00  | 4206            | 25         | 02         | 06             | 21  | 32 | 6   | 7 |       |   |
| 217       | 50  | 05  | 145  | 00  | 01   | 08  | 67 | 18  | 00  | 4206            | 25         | 02         | 08             | 21  | 32 | 6   | 7 |       |   |
| 218       | 50  | 00  | 145  | 07  | 01   | 08  | 67 | 21  | 00  | 4206            | 25         | 02         | 10             | 22  | 32 | 6   | 7 |       |   |
| 219       | 50  | 00  | 145  | 06  | 02   | 08  | 67 | 00  | 00  | 4206            | 25         | 02         | 09             | 21  | 32 | 6   | 7 |       |   |
| 220       | 50  | 03  | 145  | 04  | 02   | 08  | 67 | 03  | 00  | 4206            | 24         | 02         | 06             | 21  | 32 | 6   | 7 |       |   |
| 221       | 50  | 02  | 145  | 02  | 02   | 08  | 67 | 06  | 00  | 4206            | 24         | 02         | 05             | 21  | 32 | 6   | 8 |       |   |
| 222       | 50  | 00  | 145  | 02  | 02   | 08  | 67 | 09  | 00  | 4206            | 24         | 02         | 07             | 21  | 32 | 6   | 8 |       |   |
| 223       | 50  | 03  | 144  | 59  | 02   | 08  | 67 | 12  | 00  | 4206            | 24         | 01         | 07             | 21  | 32 | 6   | 3 |       |   |
| 224       | 49  | 59  | 145  | 03  | 02   | 08  | 67 | 15  | 00  | 4206            | 23         | 02         | 09             | 21  | 32 | 6   | 8 |       |   |
| 225       | 50  | 04  | 145  | 01  | 02   | 08  | 67 | 18  | 00  | 4206            | 23         | 02         | 11             | 21  | 32 | 6   | 8 |       |   |

TABLE 1

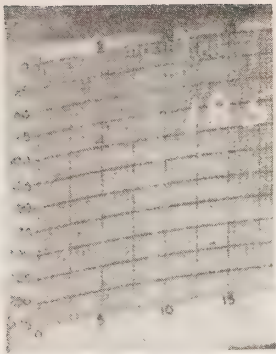
| STATION<br>No. | LAT |    | LONG |    | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Dir | W 1 |    | W 2 |   | CLOUD |   |
|----------------|-----|----|------|----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|                | P   | M  | Dir  | M  | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 226            | 50  | 08 | 144  | 58 | 02   | 08  | 67 | 21  | 00  | 4206            | 23         | 50         | 12          | 22  | 32 | 7   | 8 |       |   |
| 227            | 49  | 59 | 145  | 03 | 03   | 08  | 67 | 00  | 00  | 4206            | 22         | 46         | 10          | 32  | 22 | 6   | 8 |       |   |
| 228            | 49  | 59 | 145  | 01 | 03   | 08  | 67 | 03  | 00  | 4206            | 22         | 10         | 09          | 22  | 22 | 7   | 8 |       |   |
| 229            | 49  | 59 | 145  | 00 | 03   | 08  | 67 | 06  | 00  | 4206            | 22         | 47         | 07          | 22  | 22 | X   | 9 |       |   |
| 230            | 49  | 56 | 145  | 02 | 03   | 08  | 67 | 09  | 00  | 4206            | 22         | 51         | 07          | 22  | 22 | X   | 9 |       |   |
| 231            | 49  | 57 | 144  | 57 | 03   | 08  | 67 | 12  | 00  | 4206            | 21         | 10         | 07          | 22  | 22 | 7   | 8 |       |   |
| 232            | 50  | 00 | 144  | 56 | 03   | 08  | 67 | 15  | 00  | 4206            | 21         | 61         | 07          | 32  | 32 | 7   | 8 |       |   |
| 233            | 50  | 02 | 145  | 02 | 03   | 08  | 67 | 18  | 00  | 4206            | 22         | 59         | 05          | 20  | 32 | 7   | 8 |       |   |
| 234            | 50  | 01 | 145  | 01 | 03   | 08  | 67 | 21  | 00  | 4206            | 21         | 47         | 06          | 21  | 22 | X   | 9 |       |   |
| 235            | 50  | 01 | 144  | 58 | 04   | 08  | 67 | 00  | 00  | 4206            | 21         | 61         | 10          | 21  | XX | 6   | 8 |       |   |
| 236            | 49  | 58 | 144  | 58 | 04   | 08  | 67 | 03  | 00  | 4206            | 22         | 10         | 12          | 22  | XX | 7   | 8 |       |   |
| 237            | 50  | 03 | 145  | 00 | 04   | 08  | 67 | 06  | 00  | 4206            | 23         | 02         | 10          | 22  | 22 | 6   | 8 |       |   |
| 238            | 50  | 01 | 144  | 58 | 04   | 08  | 67 | 09  | 00  | 4206            | 23         | 51         | 10          | 22  | 22 | 7   | 8 |       |   |
| 239            | 49  | 58 | 145  | 02 | 04   | 08  | 67 | 12  | 00  | 4206            | 24         | 51         | 09          | 22  | XX | 7   | 8 |       |   |
| 240            | 50  | 01 | 144  | 58 | 04   | 08  | 67 | 15  | 00  | 4206            | 24         | 51         | 09          | 22  | 22 | 7   | 8 |       |   |
| 241            | 49  | 59 | 145  | 01 | 04   | 08  | 67 | 18  | 00  | 4206            | 25         | 02         | 10          | 22  | 32 | 6   | 7 |       |   |
| 242            | 50  | 03 | 145  | 00 | 04   | 08  | 67 | 21  | 00  | 4206            | 25         | 02         | 12          | 22  | 32 | 6   | 7 |       |   |
| 243            | 50  | 01 | 144  | 58 | 05   | 08  | 67 | 00  | 00  | 4206            | 25         | 14         | 11          | 22  | XX | 6   | 7 |       |   |
| 244            | 50  | 00 | 144  | 56 | 05   | 08  | 67 | 03  | 00  | 4206            | 25         | 02         | 15          | 22  | 22 | 6   | 7 |       |   |
| 245            | 50  | 02 | 144  | 59 | 05   | 08  | 67 | 06  | 00  | 4206            | 25         | 10         | 14          | 22  | 22 | 6   | 8 |       |   |
| 246            | 50  | 01 | 145  | 00 | 05   | 08  | 67 | 09  | 00  | 4206            | 25         | 02         | 15          | 22  | 22 | 6   | 8 |       |   |
| 247            | 49  | 58 | 144  | 58 | 05   | 08  | 67 | 12  | 00  | 4206            | 24         | 02         | 17          | 22  | 22 | 6   | 8 |       |   |
| 248            | 50  | 00 | 145  | 00 | 05   | 08  | 67 | 15  | 00  | 4206            | 24         | 02         | 14          | 22  | 23 | 6   | 8 |       |   |
| 249            | 50  | 00 | 144  | 58 | 05   | 08  | 67 | 18  | 00  | 4206            | 23         | 02         | 20          | 23  | 23 | 6   | 8 |       |   |
| 250            | 50  | 04 | 144  | 55 | 05   | 08  | 67 | 21  | 00  | 4206            | 23         | 02         | 23          | 24  | 23 | 6   | 8 |       |   |

TABLE 1

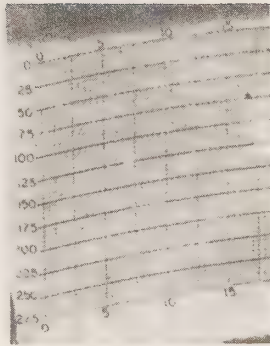
| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH  | BAR | WW   | WIND | W 1 | W 2 | CLOUD |   |   |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|--------|-----|------|------|-----|-----|-------|---|---|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min | Metres | Mbs | Code | Am't | P   | H   | P     | H | T | A |
| 251       | 50  | 01  | 144  | 54  | 06   | 08  | 67 | 00  | 00  | 4206   | 22  | 61   | 23   | 25  | 34  | 6     | 8 |   |   |
| 252       | 50  | 05  | 144  | 49  | 06   | 08  | 67 | 03  | 00  | 4206   | 21  | 02   | 21   | 25  | 34  | 6     | 8 |   |   |
| 253       | 50  | 01  | 145  | 01  | 06   | 08  | 67 | 06  | 00  | 4206   | 20  | 61   | 18   | 23  | 34  | 7     | 8 |   |   |
| 254       | 50  | 02  | 144  | 56  | 06   | 08  | 67 | 09  | 00  | 4206   | 19  | 02   | 16   | 23  | 34  | 7     | 8 |   |   |
| 255       | 50  | 01  | 144  | 56  | 06   | 08  | 67 | 12  | 00  | 4206   | 17  | 61   | 21   | 23  | 34  | 7     | 8 |   |   |
| 256       | 50  | 00  | 145  | 00  | 06   | 08  | 67 | 15  | 30  | 4206   | 17  | 10   | 10   | 21  | 34  | 7     | 8 |   |   |
| 257       | 50  | 01  | 144  | 58  | 06   | 08  | 67 | 18  | 00  | 4206   | 17  | 02   | 05   | 21  | 33  | 3     | 7 |   |   |
| 258       | 50  | 00  | 144  | 58  | 06   | 08  | 67 | 21  | 00  | 4206   | 16  | 02   | 14   | 22  | 33  | 6     | 6 |   |   |
| 259       | 49  | 54  | 143  | 40  | 07   | 08  | 67 | 04  | 30  | 4023   | 15  | 03   | 14   | 22  | 33  | 7     | 7 |   |   |
| 260       | 49  | 50  | 142  | 40  | 07   | 08  | 67 | 09  | 00  | 4023   |     |      |      |     |     |       |   |   |   |
| 261       | 49  | 40  | 141  | 40  | 07   | 08  | 67 | 16  | 20  | 4042   | 10  | 02   | 15   | 22  | 33  | 7     | 8 |   |   |
| 262       | 49  | 41  | 140  | 46  | 07   | 08  | 67 | 19  | 00  | 3886   | 11  | 80   | 18   | 22  | 32  | 7     | 5 |   |   |
| 263       | 49  | 38  | 139  | 40  | 07   | 08  | 67 | 22  | 45  | 3255   | 11  | 10   | 25   | 32  | 33  | 7     | 8 |   |   |
| 264       | 49  | 34  | 138  | 40  | 08   | 08  | 67 | 01  | 00  | 4005   | 12  | 45   | 23   | 32  | 33  | X     | 9 |   |   |
| 265       | 49  | 30  | 137  | 40  | 08   | 08  | 67 | 04  | 30  | 3950   | 12  | 45   | 25   | 32  | 33  | X     | 9 |   |   |
| 266       | 49  | 25  | 136  | 49  | 08   | 08  | 67 | 06  | 30  | 3658   | 14  | 02   |      |     |     |       | 7 | 8 |   |
| 267       | 49  | 22  | 135  | 40  | 08   | 08  | 67 | 11  | 15  | 3914   | 15  | 02   | 24   | 32  | 33  | 7     | 8 |   |   |
| 268       | 49  | 17  | 134  | 40  | 08   | 08  | 67 | 13  | 30  | 2798   | 16  | 45   | 26   | 33  | 33  | X     | 9 |   |   |
| 269       | 49  | 15  | 133  | 40  | 08   | 08  | 67 | 16  | 00  | 2926   | 16  | 43   | 20   | 33  | 33  | X     | 9 |   |   |
| 270       | 49  | 05  | 132  | 44  | 08   | 08  | 67 | 18  | 30  | 3237   | 19  | 10   | 18   | 23  | 32  | 7     | 8 |   |   |
| 271       | 49  | 03  | 131  | 40  | 08   | 08  | 67 | 22  | 00  | 2926   | 20  | 02   | 18   | 23  | 32  | 7     | 8 |   |   |
| 272       | 49  | 02  | 130  | 40  | 09   | 08  | 67 | 01  | 00  | 3438   | 20  | 02   | 12   | 23  | 33  | 3     | 6 |   |   |
| 273       | 48  | 55  | 129  | 40  | 09   | 08  | 67 | 04  | 30  | 2926   | 20  | 02   | 05   | 23  | 32  | 3     | 1 |   |   |
| 274       | 48  | 51  | 128  | 40  | 09   | 08  | 67 | 07  | 45  | 2176   | 19  | 01   | 05   | 0-  | 32  | 6     | 1 |   |   |
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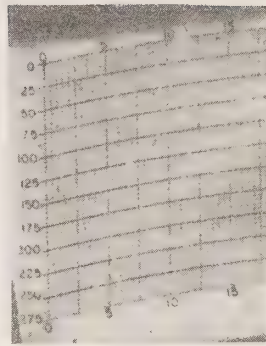




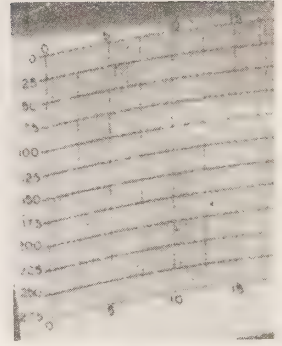
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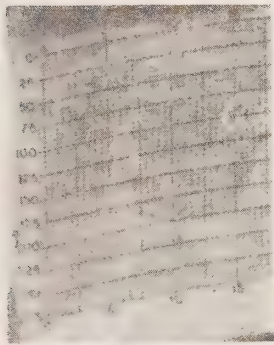
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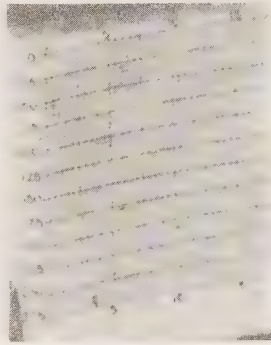
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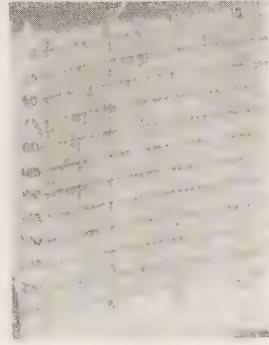
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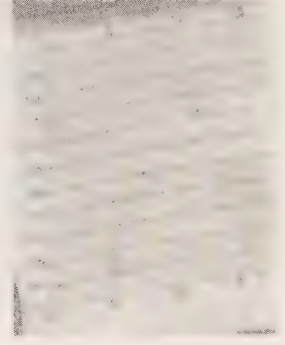
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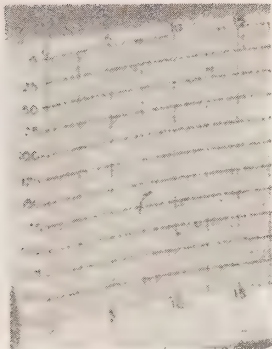
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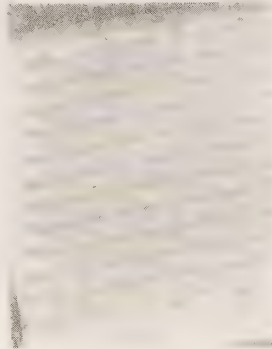
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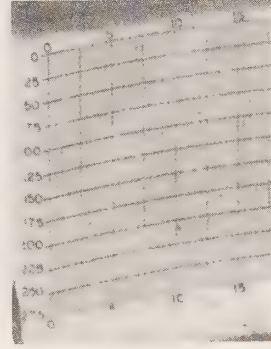
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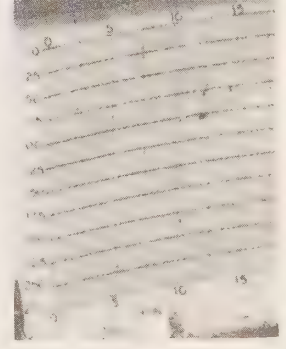
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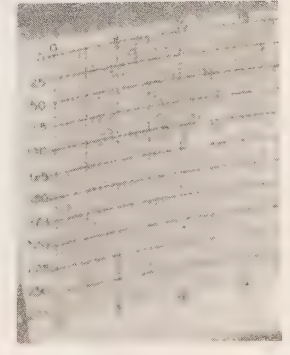
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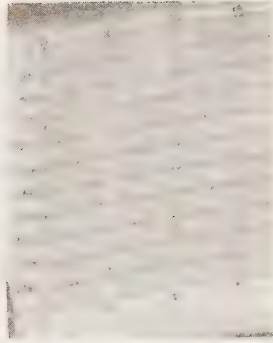
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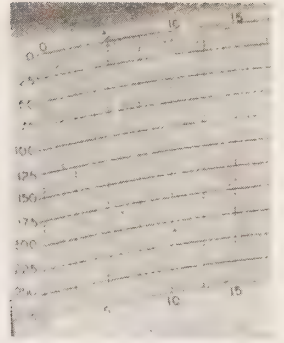
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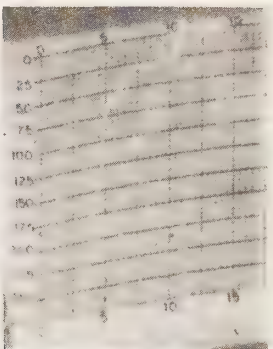
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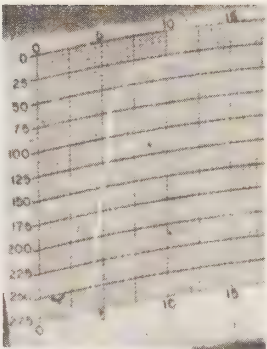
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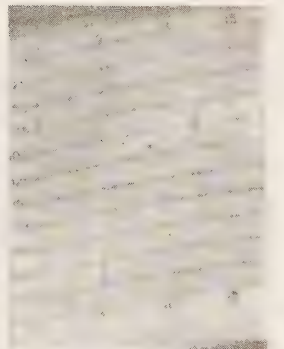
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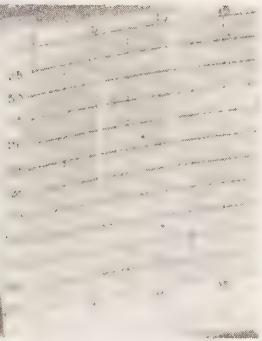
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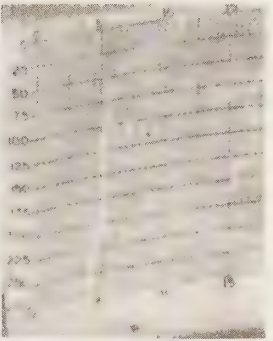
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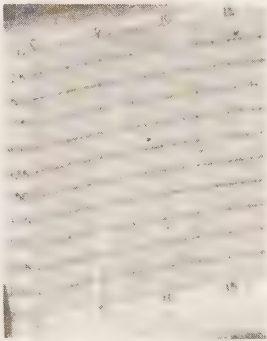
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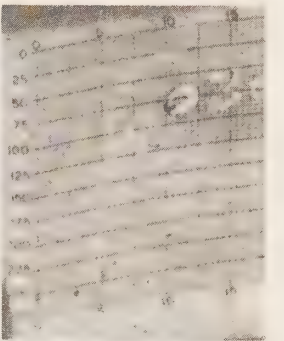
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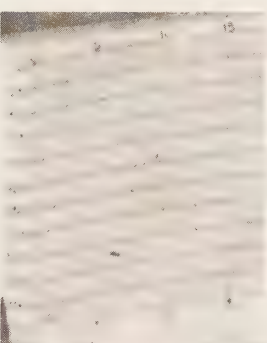
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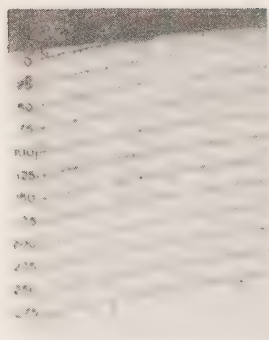


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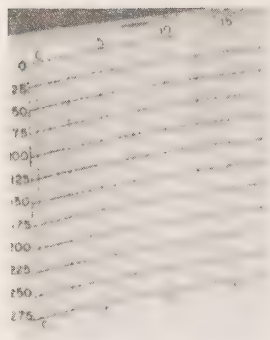




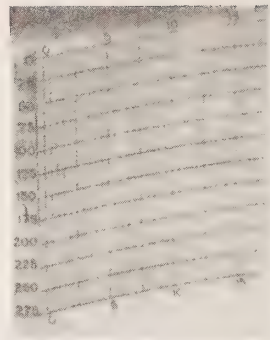
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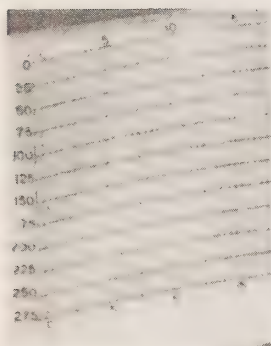
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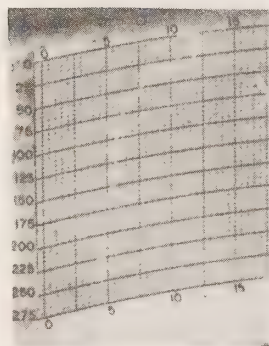
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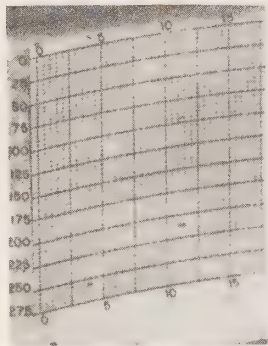
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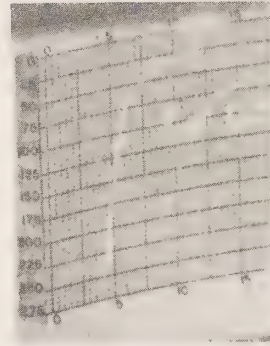
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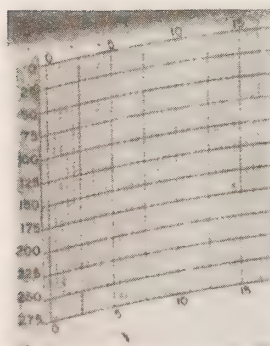
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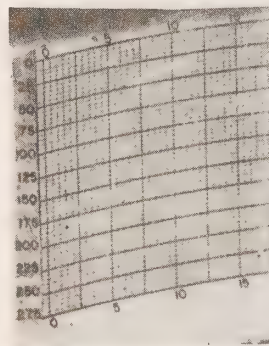
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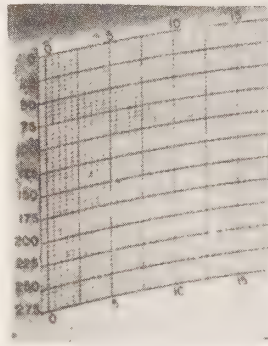
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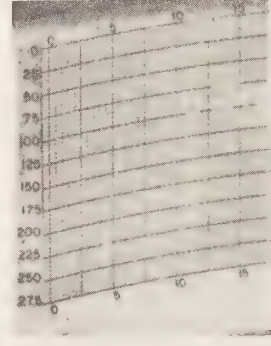
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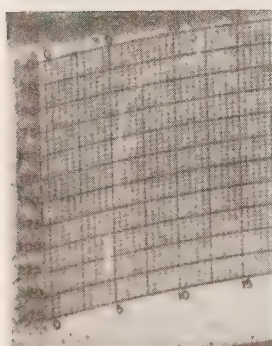
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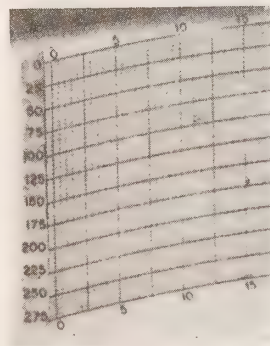
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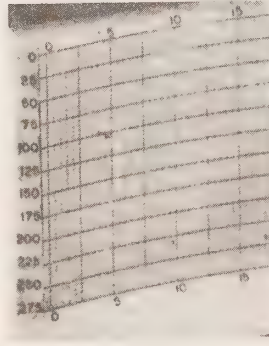
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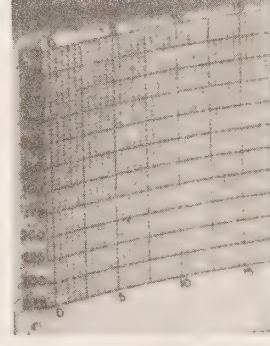
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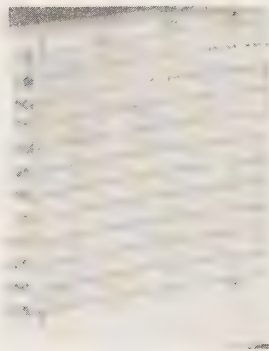
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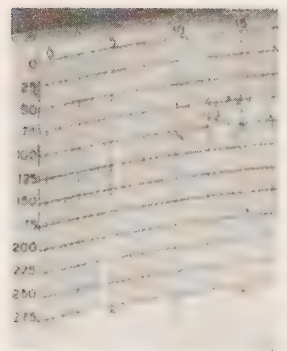
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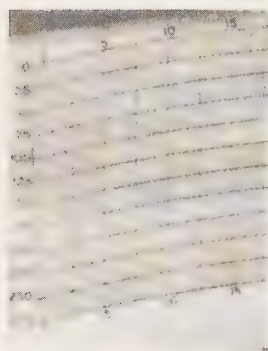
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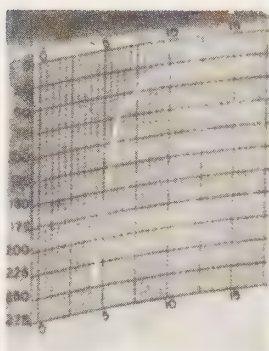
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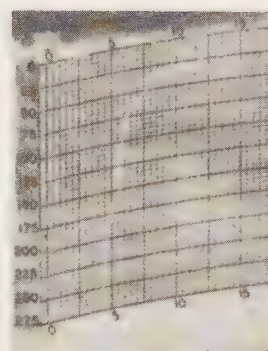
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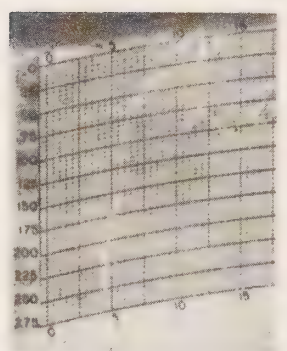
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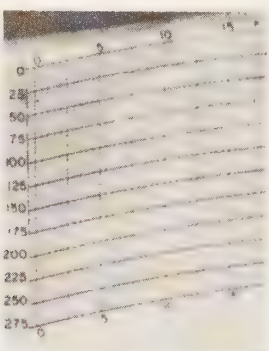
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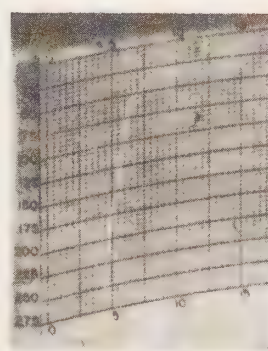
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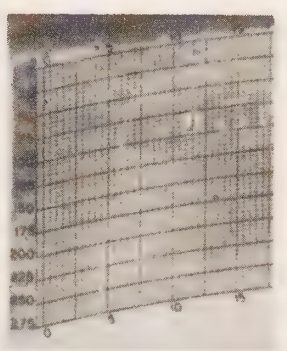
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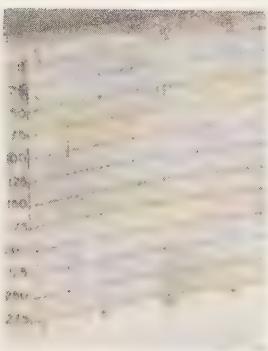
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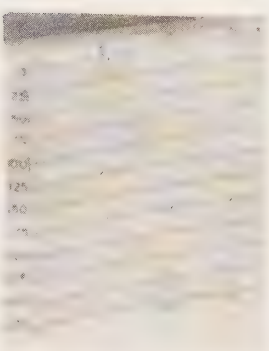
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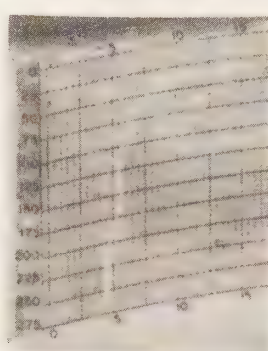
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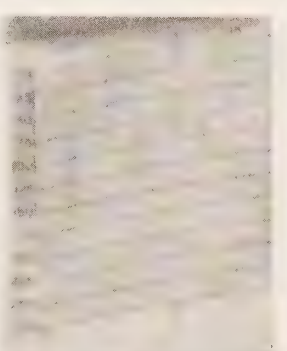
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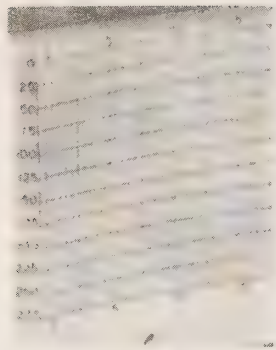


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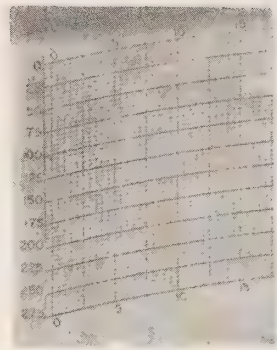




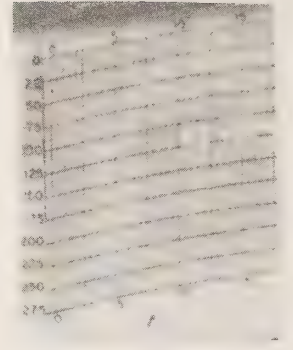
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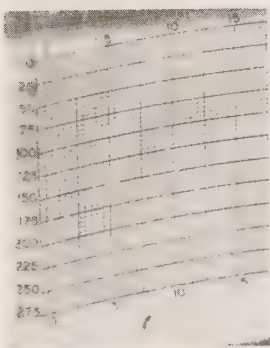
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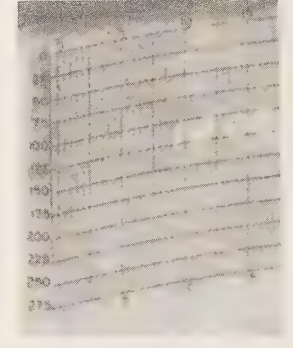
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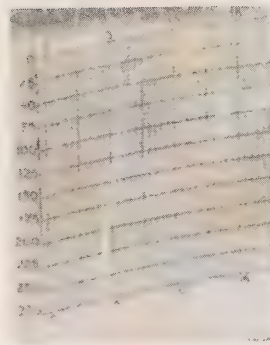
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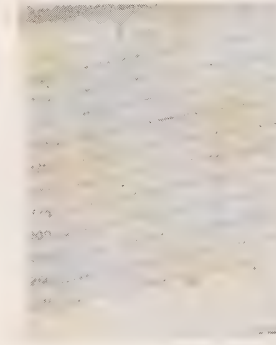
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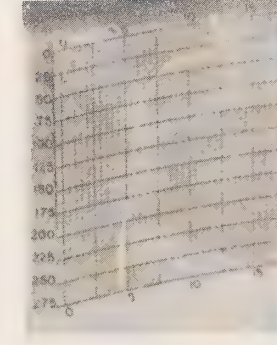
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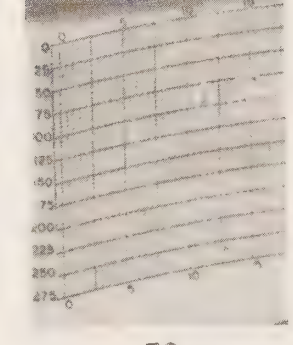
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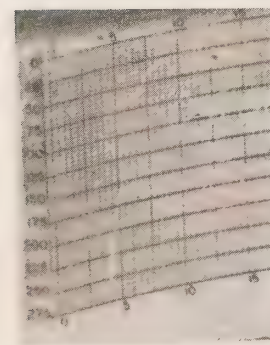
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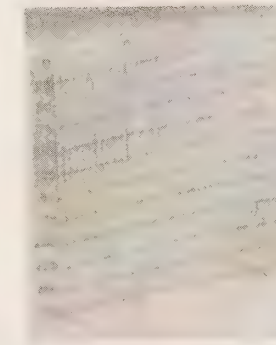
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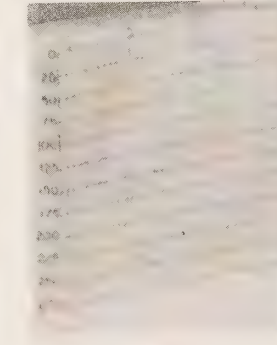
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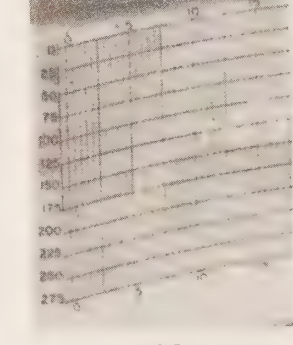
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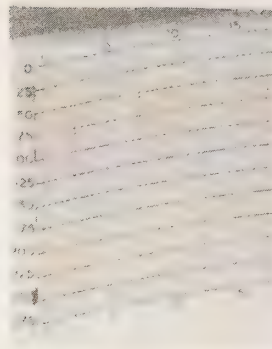




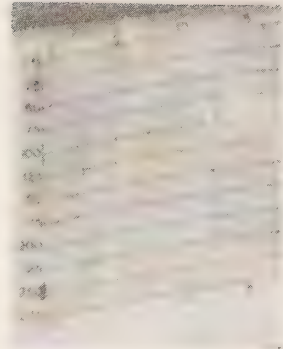
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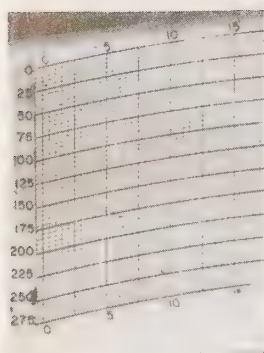
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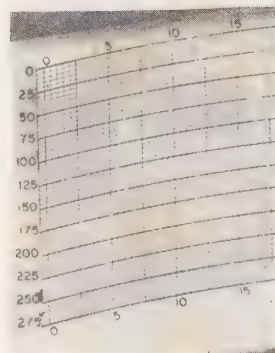
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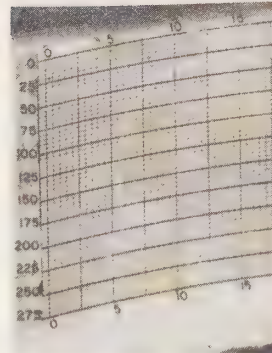
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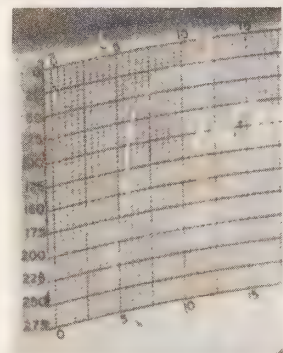
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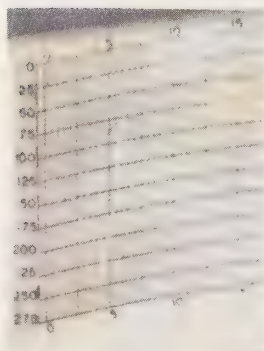
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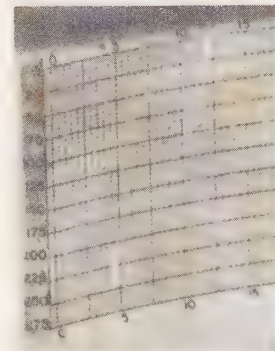
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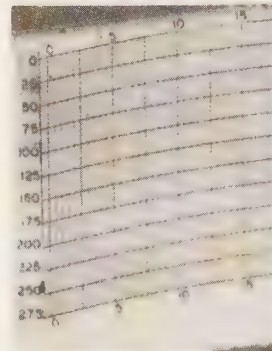
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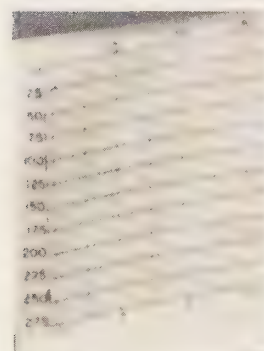
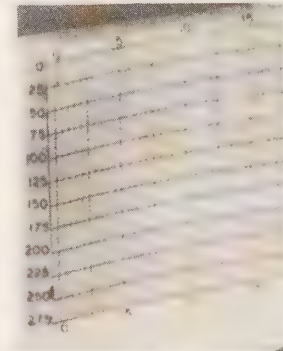
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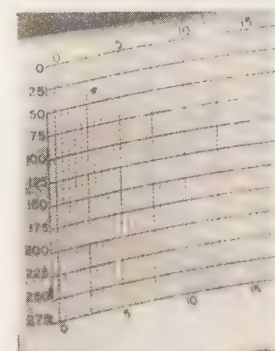
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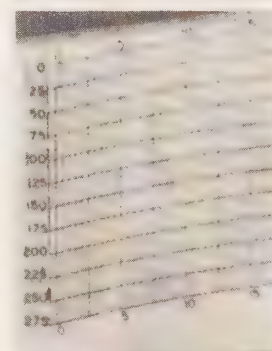
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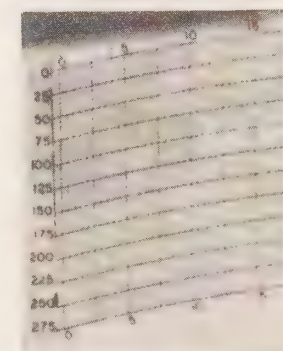
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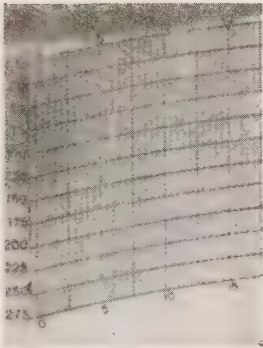
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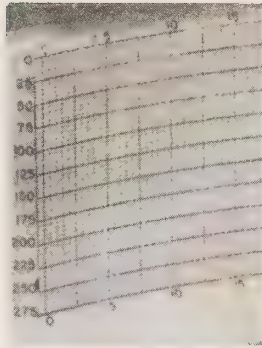
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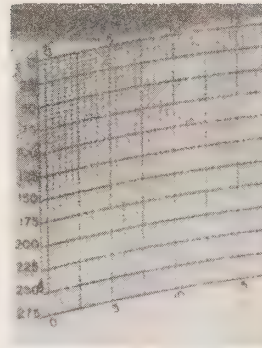
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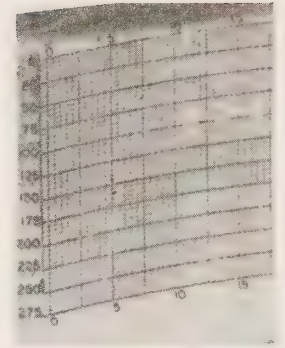
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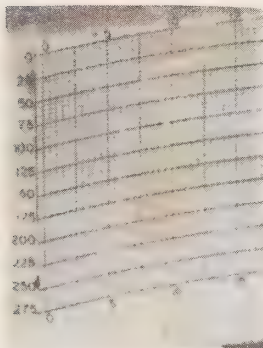
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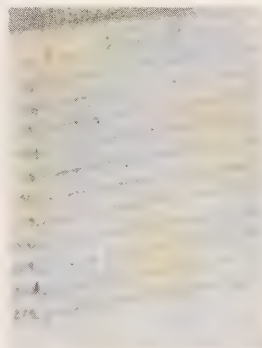
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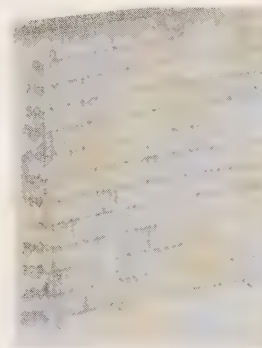
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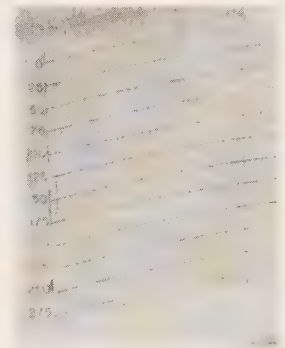
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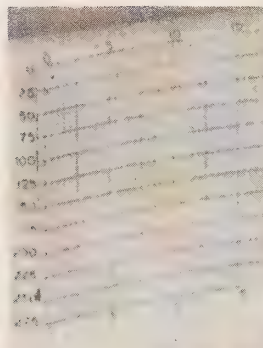
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103



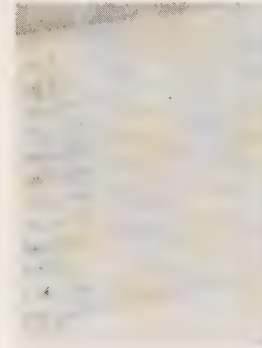
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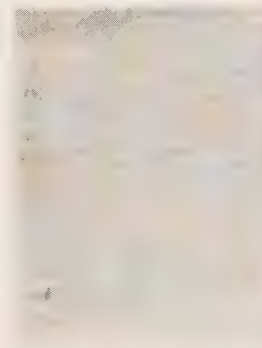
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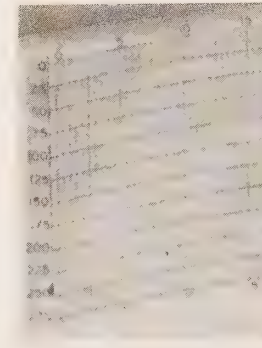
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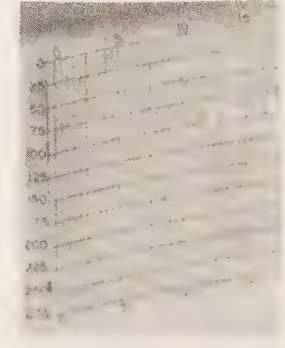
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110



111

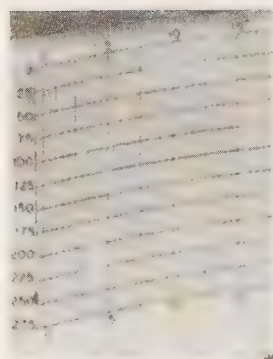


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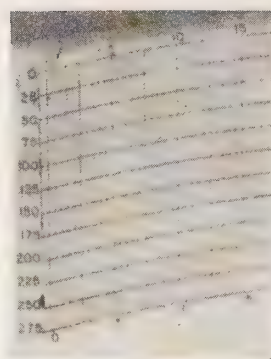




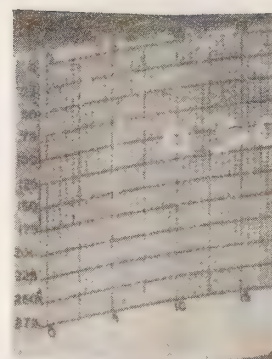
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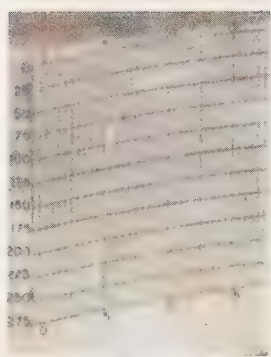
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119



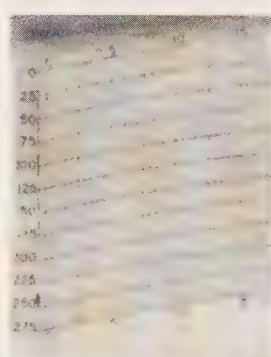
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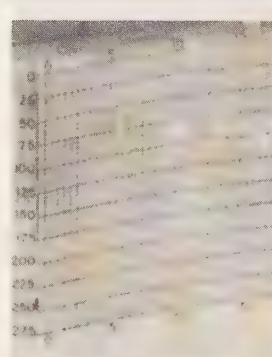
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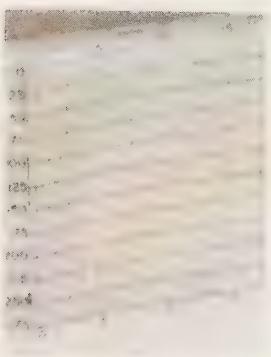
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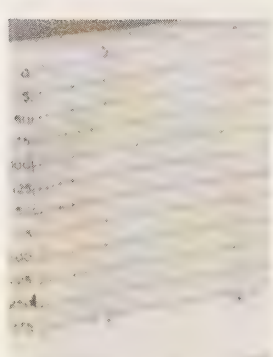
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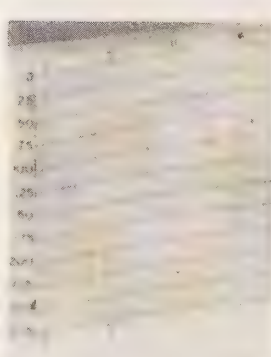
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126



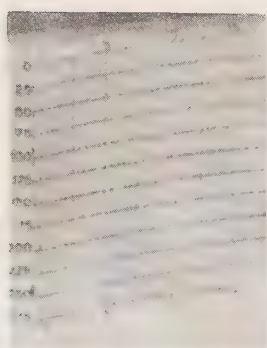
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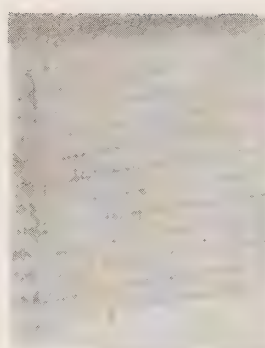
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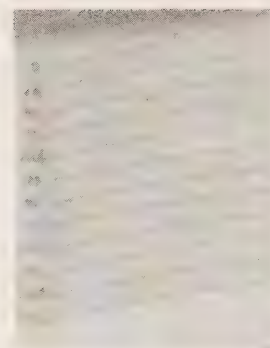
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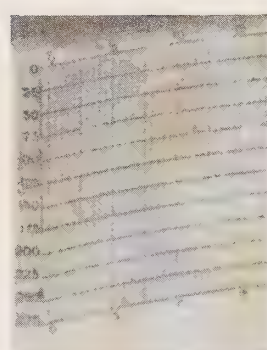
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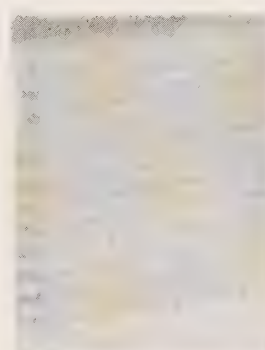
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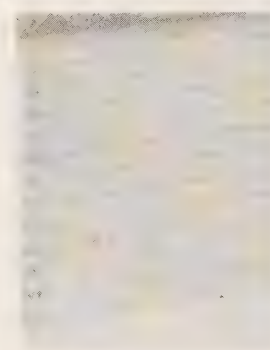
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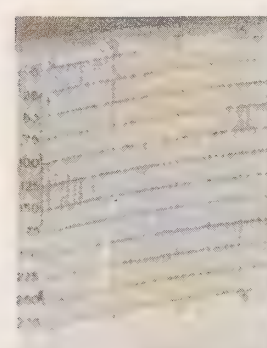
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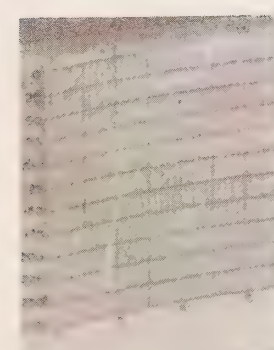
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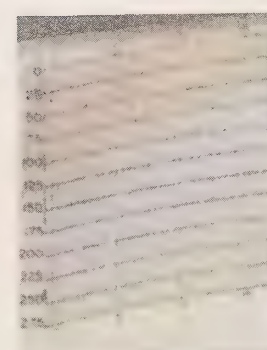
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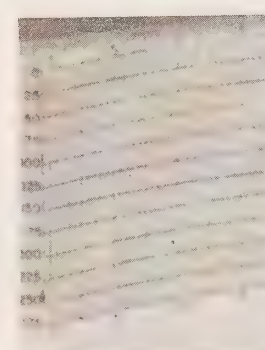
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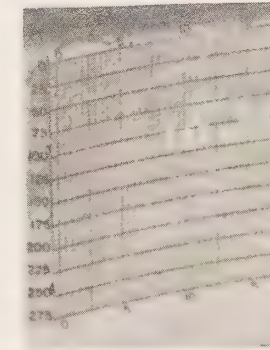
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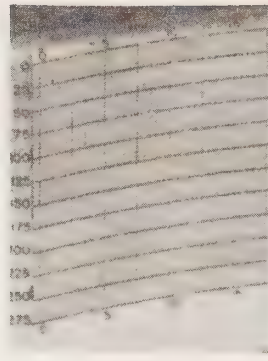
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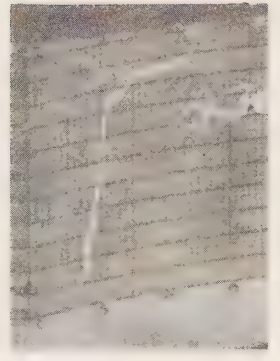
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148



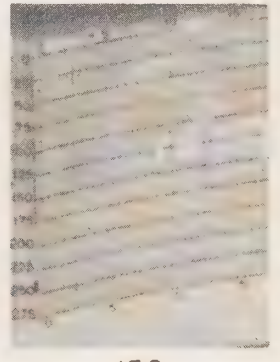
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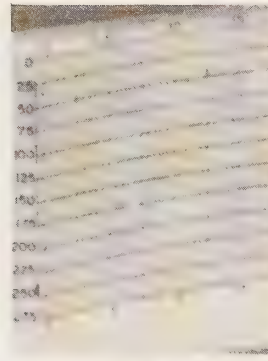
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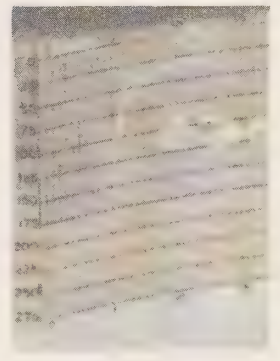
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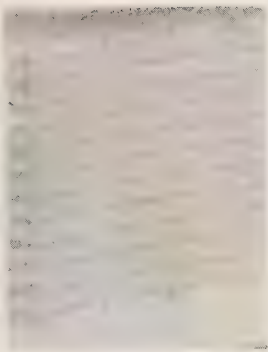


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161



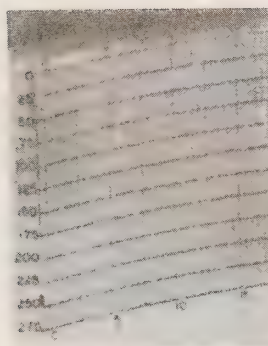
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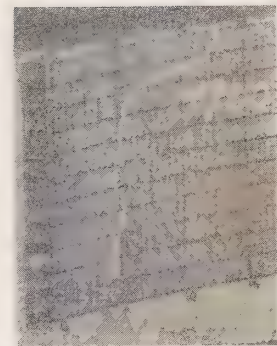
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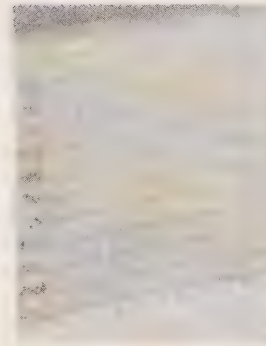
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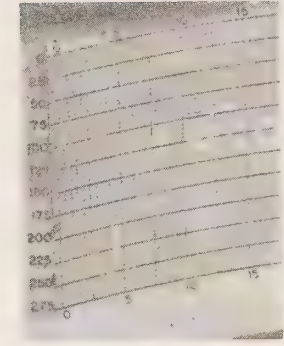
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166



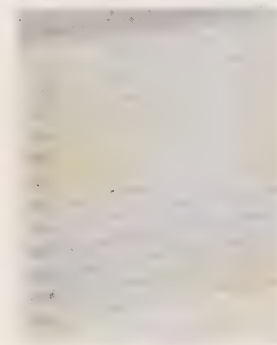
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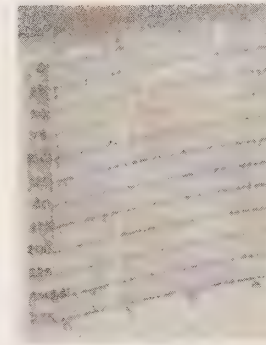
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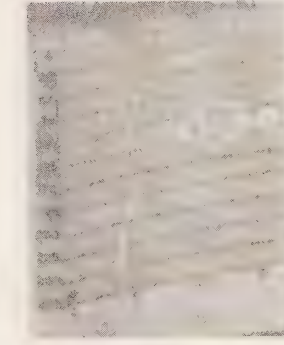
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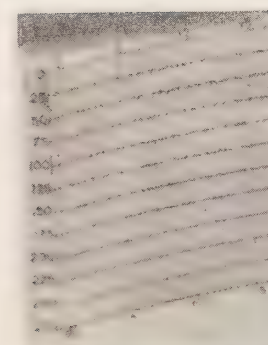
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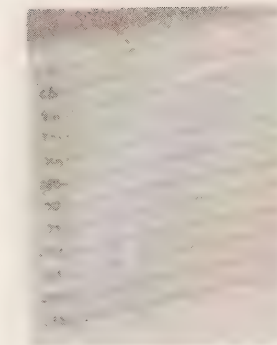
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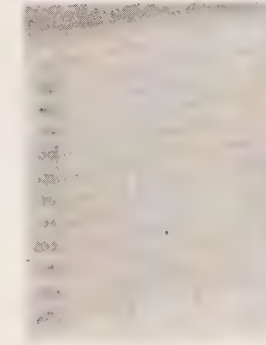
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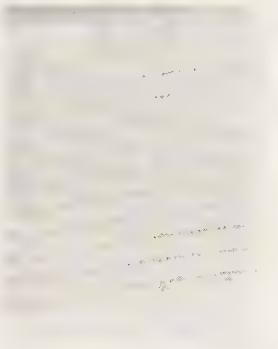
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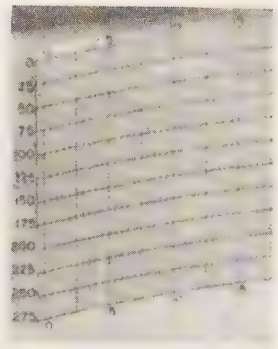
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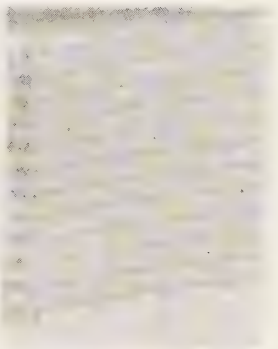
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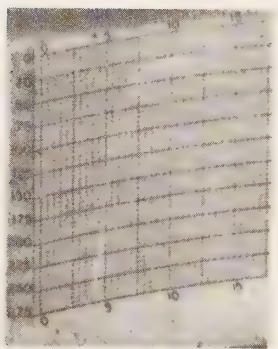
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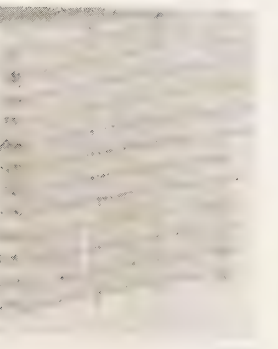
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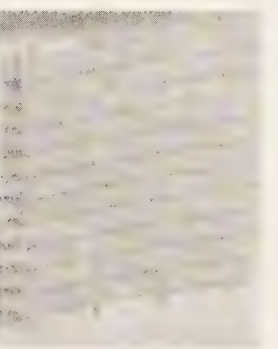
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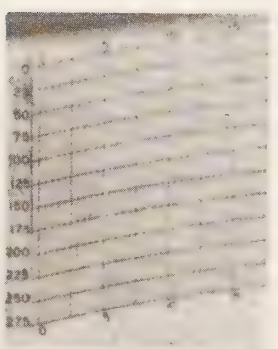
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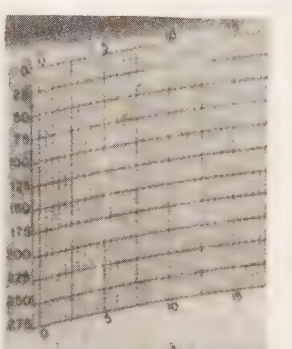
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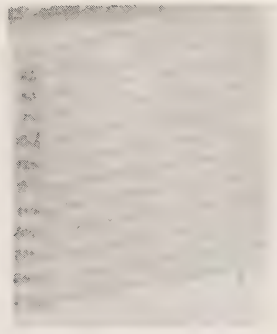
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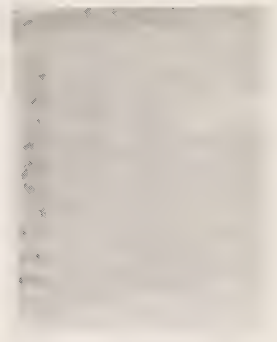
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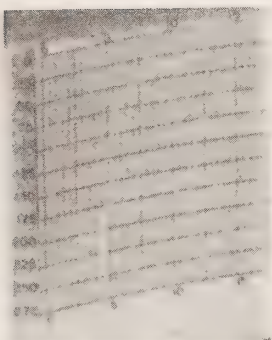
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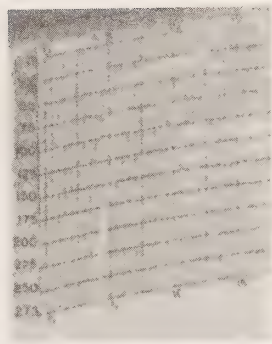
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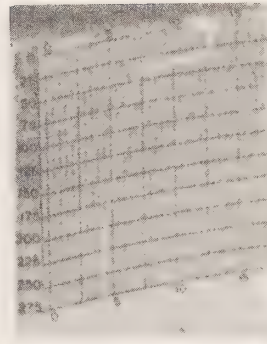
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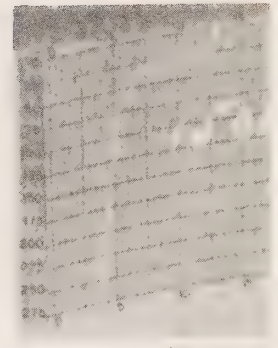
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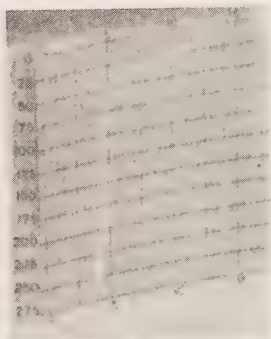
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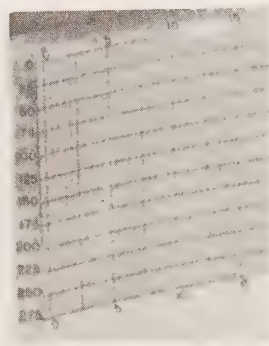
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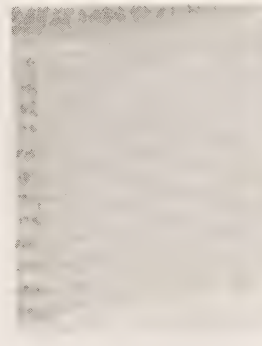
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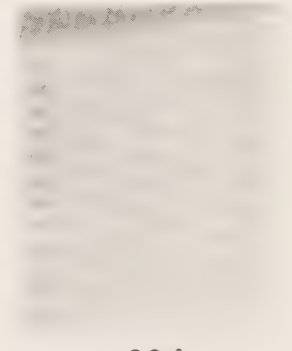
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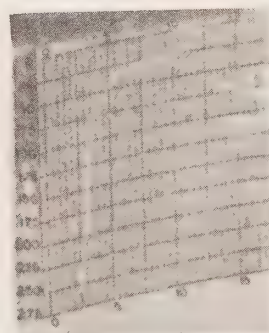
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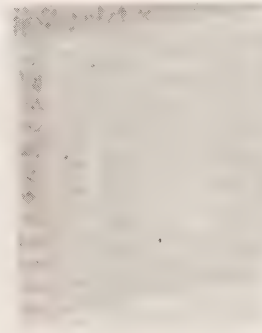
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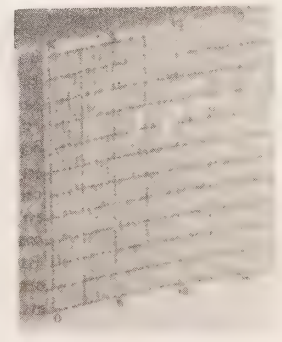
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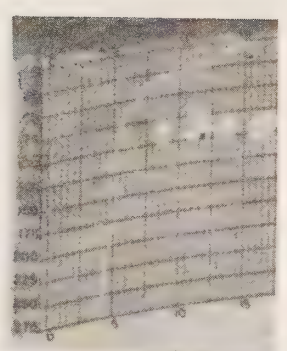
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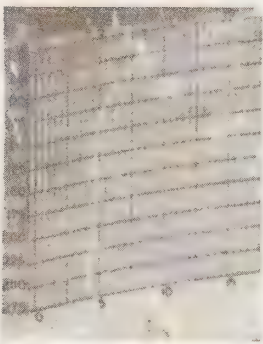
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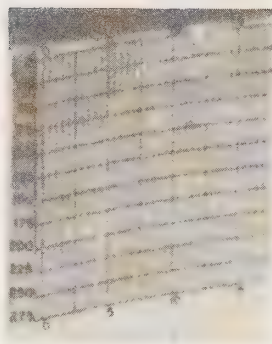
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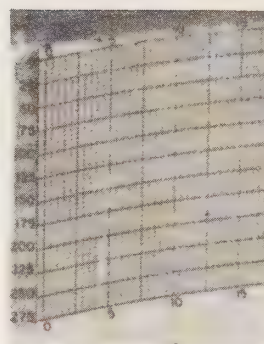
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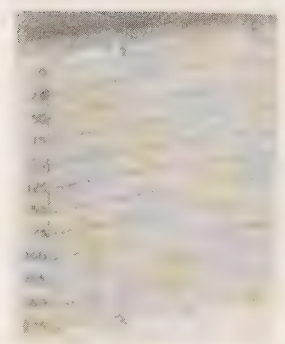
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220



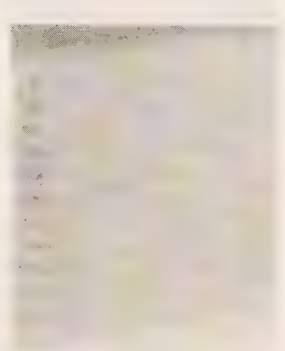
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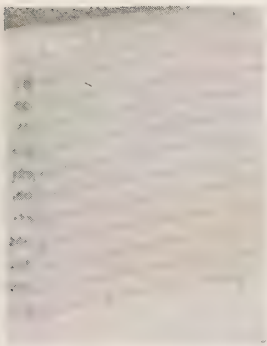
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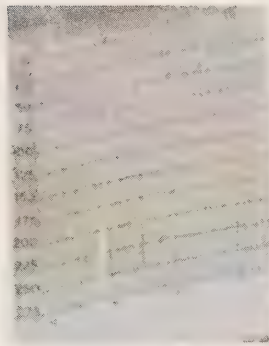
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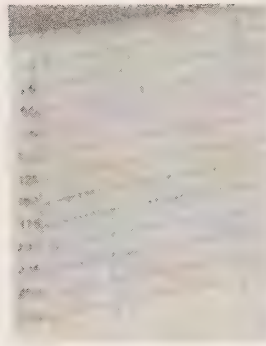
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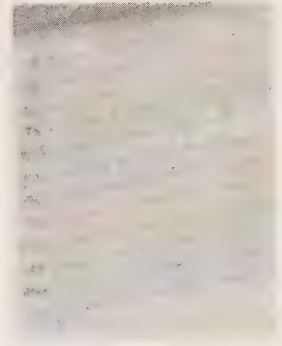
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226



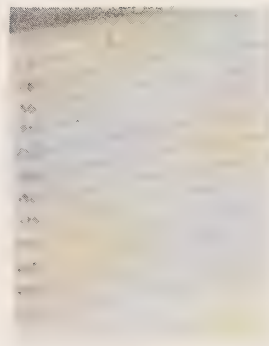
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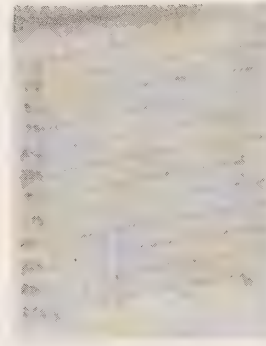
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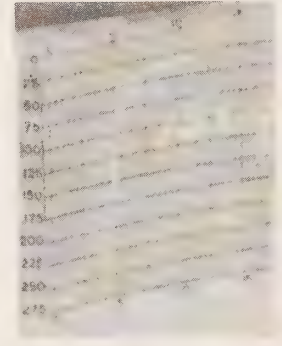
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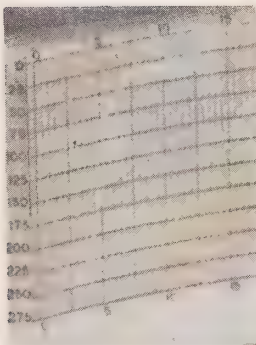
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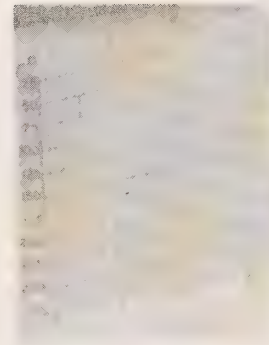
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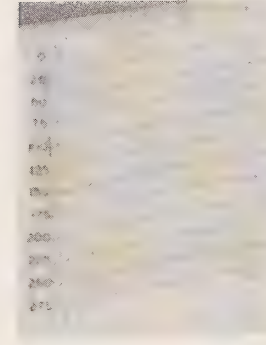
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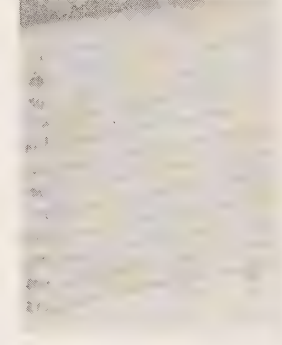
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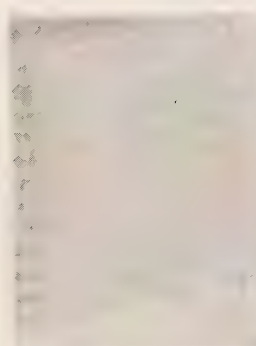
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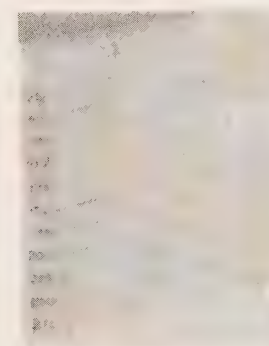
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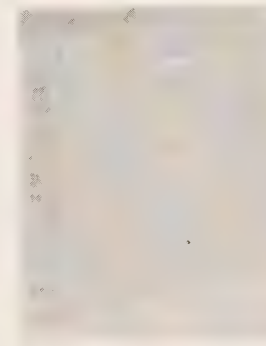
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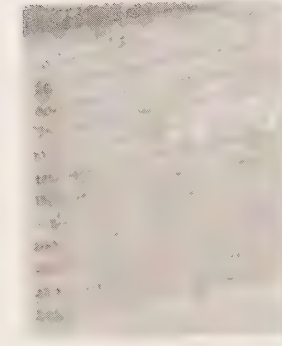
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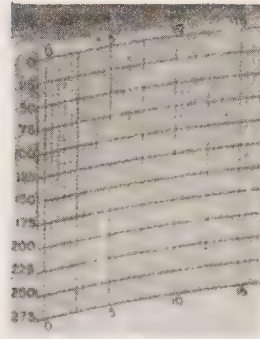




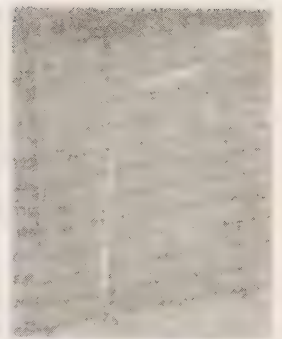
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242



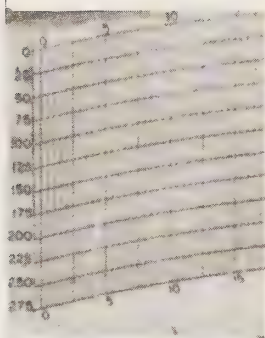
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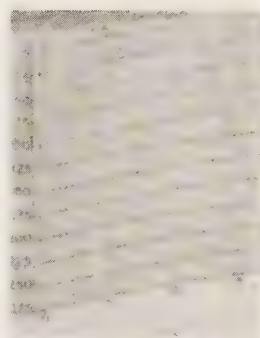
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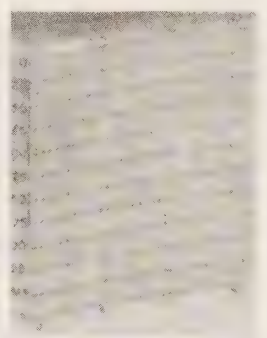
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247



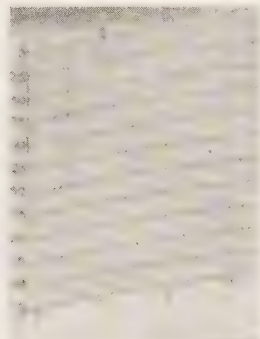
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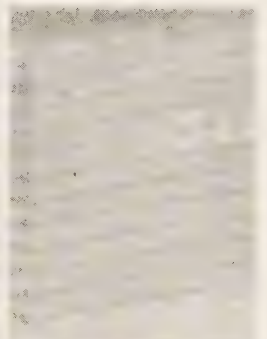
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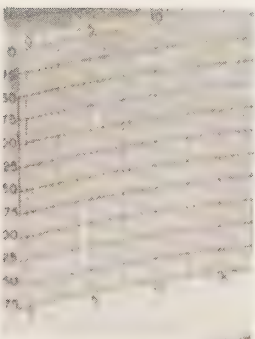
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252



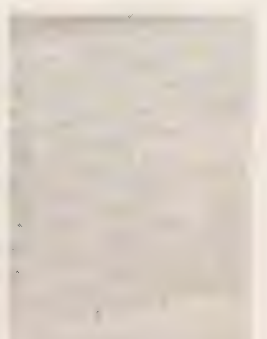
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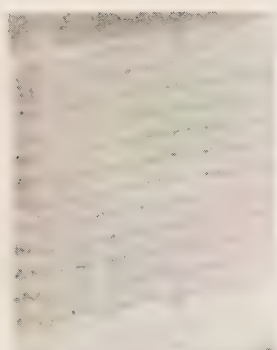
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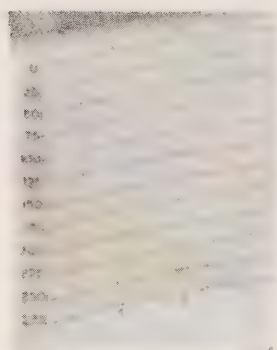
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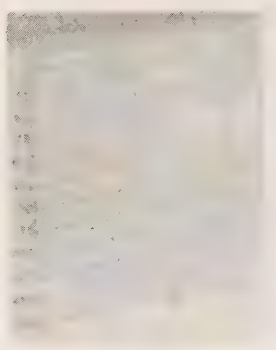
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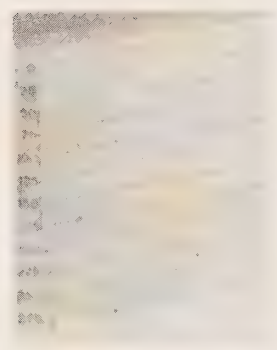
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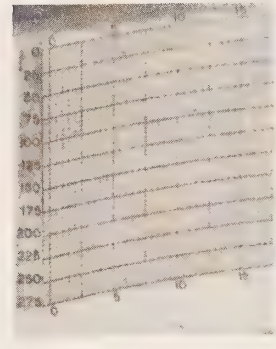
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266



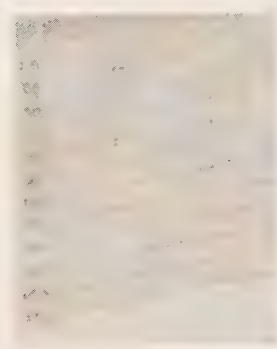
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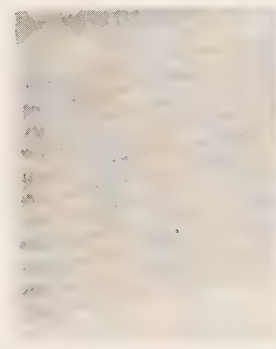
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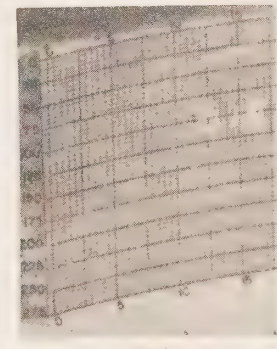
269



270



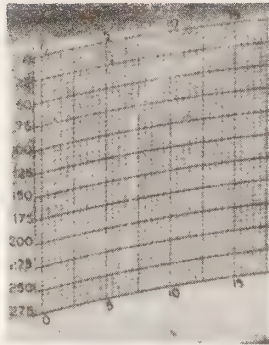
271



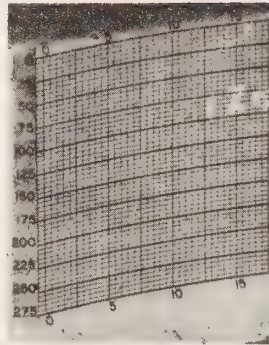
272



273



274



275

CCGS "STONETOWN" 02-67-006

BATHYTHERMOGRAMS





TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amt | W 1 |    | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 001       | 48  | 35  | 125  | 32  | 05   | 08  | 67 | 03  | 30  | 0128            | 20         | 02         | 15          | 21  | 21 |     |   | 6     | 8 |
| 002       | 48  | 36  | 126  | 00  | 05   | 08  | 67 | 05  | 30  | 0113            | 20         | 02         | 15          | 21  | 21 |     |   | X     | X |
| 003       | 49  | 04  | 131  | 40  | 06   | 08  | 67 | 01  | 00  | 2875            | 22         | 02         | 22          | 21  | 22 |     |   | 6     | 7 |
| 004       | 49  | 12  | 133  | 40  | 06   | 08  | 67 | 07  | 30  | 3200            | 23         | 02         | 30          | 23  | 22 |     |   | X     | X |
| 005       | 49  | 21  | 135  | 40  | 06   | 08  | 67 | 13  | 30  | 3200            | 23         | 02         | 30          | 23  | 22 |     |   | 6     | 7 |
| 006       | 49  | 24  | 136  | 40  | 06   | 08  | 67 | 17  | 00  | 3775            | 23         | 02         | 20          | 22  | 22 |     |   | 6     | 7 |
| 007       | 49  | 30  | 137  | 40  | 06   | 08  | 67 | 20  | 00  | 3850            | 23         | 02         | 20          | 21  | 22 |     |   | 6     | 7 |
| 008       | 49  | 31  | 138  | 40  | 07   | 08  | 67 | 00  | 00  | 3890            | 21         | 02         | 20          | 21  | 23 |     |   | 7     | 7 |
| 009       | 49  | 46  | 141  | 40  | 07   | 08  | 67 | 11  | 00  | 3970            | 11         | 02         | 20          | 22  | 33 |     |   | X     | X |
| 010       | 49  | 50  | 142  | 40  | 07   | 08  | 67 | 17  | 00  | 3910            | 10         | 02         | 20          | 22  | 23 |     |   | 0     | 9 |
| 011       | 50  | 04  | 145  | 00  | 09   | 08  | 67 | 15  | 00  | 4221            | 08         | 02         | 10          | 21  | 23 |     |   | 6     | 7 |
| 012       | 50  | 03  | 145  | 08  | 09   | 08  | 67 | 18  | 00  | 4221            | 09         | 02         | 10          | 21  | 33 |     |   | 6     | 7 |
| 013       | 50  | 01  | 142  | 06  | 09   | 08  | 67 | 21  | 00  | 4221            | 10         | 02         | 15          | 20  | 31 |     |   | 6     | 7 |
| 014       | 50  | 05  | 145  | 00  | 10   | 08  | 67 | 00  | 00  | 4221            | 10         | 02         | 15          | 21  | 32 |     |   | 5     | 7 |
| 015       | 50  | 03  | 144  | 56  | 10   | 08  | 67 | 03  | 00  | 4221            | 10         | 02         | 15          | 22  | 32 |     |   | 6     | 7 |
| 016       | 50  | 02  | 145  | 01  | 10   | 08  | 67 | 06  | 00  | 4221            | 10         | 02         | 15          | 21  | 32 |     |   | 6     | 7 |
| 017       | 50  | 00  | 144  | 55  | 10   | 08  | 67 | 09  | 00  | 4221            | 11         | 02         | 10          | 21  | 22 |     |   | 4     | 7 |
| 018       | 50  | 00  | 145  | 05  | 10   | 08  | 67 | 12  | 00  | 4221            | 10         | 02         | 10          | 21  | 23 |     |   | 3     | X |
| 019       | 49  | 58  | 145  | 02  | 10   | 08  | 67 | 15  | 00  | 4221            | 11         | 01         | 10          | 21  | 22 |     |   | 8     | 4 |
| 020       | 49  | 56  | 144  | 58  | 10   | 08  | 67 | 18  | 00  | 4221            | 12         | 03         | 12          | 21  | 22 |     |   | 8     | 7 |
| 021       | 50  | 01  | 144  | 57  | 10   | 08  | 67 | 21  | 00  | 4221            | 13         | 02         | 12          | 21  | 22 |     |   | 8     | 7 |
| 022       | 49  | 59  | 144  | 54  | 11   | 08  | 67 | 00  | 00  | 4221            | 13         | 02         | 10          | 21  | 22 |     |   | 8     | 7 |
| 023       | 49  | 59  | 144  | 49  | 11   | 08  | 67 | 03  | 00  | 4221            | 14         | 02         | 05          | 21  | 22 |     |   | 8     | 7 |
| 024       | 49  | 59  | 144  | 59  | 11   | 08  | 67 | 06  | 00  | 4221            | 15         | 02         | 05          | 21  | 22 |     |   | 8     | 7 |
| 025       | 49  | 58  | 145  | 03  | 11   | 08  | 67 | 09  | 00  | 4221            | 15         | 02         | 05          | XX  | 21 |     |   | X     | X |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 026       | 50  | 00  | 145  | 03  | 11   | 08  | 67 | 12  | 00  | 4221            | 16         | 02         | 00          | X0  | 22 | X   | X |       |   |
| 027       | 50  | 00  | 144  | 51  | 11   | 08  | 67 | 15  | 00  | 4221            | 17         | 02         | 00          | X0  | 21 | X   | X |       |   |
| 028       | 50  | 00  | 144  | 56  | 11   | 08  | 67 | 18  | 00  | 4221            | 18         | 02         | 00          | X0  | 21 | 8   | 7 |       |   |
| 029       | 49  | 56  | 144  | 53  | 11   | 08  | 67 | 21  | 00  | 4221            | 20         | 02         | 00          | X0  | 21 | 8   | 7 |       |   |
| 030       | 49  | 56  | 144  | 55  | 12   | 08  | 67 | 00  | 00  | 4221            | 20         | 02         | 10          | X0  | 22 | 6   | 5 |       |   |
| 031       | 49  | 59  | 144  | 57  | 12   | 08  | 67 | 03  | 00  | 4221            | 22         | 02         | 12          | 12  | 21 | 8   | 5 |       |   |
| 032       | 49  | 57  | 144  | 55  | 12   | 08  | 67 | 06  | 00  | 4221            | 22         | 02         | 15          | 12  | 21 | 8   | 3 |       |   |
| 033       | 49  | 56  | 144  | 54  | 12   | 08  | 67 | 09  | 00  | 4221            | 23         | 02         | 10          | 12  | 22 | 8   | 3 |       |   |
| 034       | 50  | 05  | 145  | 04  | 12   | 08  | 67 | 12  | 00  | 4221            | 24         | 02         | 10          | 12  | 22 | 7   | 2 |       |   |
| 035       | 50  | 00  | 145  | 02  | 12   | 08  | 67 | 15  | 00  | 4221            | 25         | 02         | 10          | 12  | 22 | 8   | 3 |       |   |
| 036       | 50  | 01  | 145  | 03  | 12   | 08  | 67 | 18  | 00  | 4221            | 26         | 02         | 15          | 12  | 22 | 8   | 3 |       |   |
| 037       | 49  | 58  | 145  | 04  | 12   | 08  | 67 | 21  | 00  | 4221            | 27         | 02         | 15          | 12  | 22 | 8   | 7 |       |   |
| 038       | 49  | 58  | 145  | 07  | 13   | 08  | 67 | 00  | 00  | 4221            | 27         | 02         | 15          | 11  | 22 | 7   | 6 |       |   |
| 039       | 49  | 56  | 145  | 07  | 13   | 08  | 67 | 03  | 00  | 4221            | 27         | 02         | 10          | 20  | 21 | 7   | 6 |       |   |
| 040       | 49  | 56  | 145  | 08  | 13   | 08  | 67 | 06  | 00  | 4221            | 27         | 02         | 10          | 01  | 21 | 8   | 2 |       |   |
| 041       | 49  | 54  | 145  | 11  | 13   | 08  | 67 | 09  | 00  | 4221            | 27         | 02         | 10          | 01  | 21 | X   | X |       |   |
| 042       | 50  | 05  | 144  | 55  | 13   | 08  | 67 | 12  | 00  | 4221            | 27         | 02         | 10          | X0  | 21 | 8   | 3 |       |   |
| 043       | 50  | 03  | 144  | 55  | 13   | 08  | 67 | 15  | 00  | 4221            | 27         | 02         | 10          | XX  | 21 | 1   | 4 |       |   |
| 044       | 50  | 02  | 144  | 56  | 13   | 08  | 67 | 18  | 00  | 4221            | 27         | 02         | 10          | XX  | 21 | 6   | 6 |       |   |
| 045       | 49  | 58  | 144  | 57  | 13   | 08  | 67 | 21  | 00  | 4221            | 27         | 02         | 10          | XX  | 21 | 6   | 7 |       |   |
| 046       | 49  | 57  | 145  | 00  | 14   | 08  | 67 | 00  | 00  | 4221            | 27         | 02         | 10          | XX  | 22 | 7   | 5 |       |   |
| 047       | 49  | 56  | 145  | 02  | 14   | 08  | 67 | 03  | 00  | 4221            | 26         | 02         | 10          | XX  | 22 | 3   | 7 |       |   |
| 048       | 50  | 02  | 145  | 02  | 14   | 08  | 67 | 06  | 00  | 4221            | 26         | 02         | 10          | XX  | 21 | 3   | 7 |       |   |
| 049       | 50  | 03  | 145  | 03  | 14   | 08  | 67 | 09  | 00  | 4221            | 26         | 02         | 10          | XX  | 21 | 3   | 8 |       |   |
| 050       | 50  | 05  | 145  | 04  | 14   | 08  | 67 | 12  | 00  | 4221            | 25         | 02         | 10          | XX  | 21 | 4   | 8 |       |   |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Amf | W 1 |   | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 051       | 50  | 00  | 145  | 08  | 14   | 08  | 67 | 15  | 00  | 4221            | 24         | 02         | 06          | XX  |   | 21  |   | 4     | 7 |
| 052       | 50  | 05  | 145  | 07  | 14   | 08  | 67 | 18  | 00  | 4221            | 24         | 02         | 10          | 21  |   | 21  |   | 6     | 7 |
| 053       | 50  | 02  | 145  | 10  | 14   | 08  | 67 | 21  | 00  | 4221            | 24         | 02         | 10          | 21  |   | 22  |   | 6     | 5 |
| 054       | 50  | 00  | 145  | 00  | 15   | 08  | 67 | 03  | 00  | 4221            | 22         | 02         | 10          | 21  |   | 21  |   | 6     | 5 |
| 055       | 49  | 58  | 145  | 03  | 15   | 08  | 67 | 06  | 00  | 4221            | 22         | 02         | 10          | 21  |   | 21  |   | 6     | 8 |
| 056       | 50  | 00  | 145  | 04  | 15   | 08  | 67 | 09  | 00  | 4221            | 22         | 02         | 15          | 21  |   | 21  |   | X     | X |
| 057       | 50  | 01  | 144  | 58  | 15   | 08  | 67 | 12  | 00  | 4221            | 20         | 02         | 15          | 21  |   | 22  |   | 6     | 1 |
| 058       | 50  | 01  | 145  | 01  | 15   | 08  | 67 | 15  | 00  | 4221            | 19         | 02         | 15          | 21  |   | 22  |   | 6     | 6 |
| 059       | 50  | 01  | 145  | 02  | 15   | 08  | 67 | 18  | 00  | 4221            | 19         | 02         | 20          | 21  |   | 22  |   | 6     | 6 |
| 060       | 49  | 59  | 145  | 04  | 15   | 08  | 67 | 21  | 00  | 4221            | 18         | 02         | 20          | 21  |   | 22  |   | 6     | 8 |
| 061       | 50  | 00  | 145  | 00  | 16   | 08  | 67 | 00  | 00  | 4221            | 17         | 02         | 25          | 32  |   | 33  |   | 5     | 8 |
| 062       | 49  | 56  | 145  | 05  | 16   | 08  | 67 | 03  | 00  | 4221            | 17         | 12         | 20          | 22  |   | 33  |   | X     | 9 |
| 063       | 49  | 58  | 145  | 07  | 16   | 08  | 67 | 06  | 00  | 4221            | 18         | 12         | 20          | 22  |   | 33  |   | X     | 9 |
| 064       | 49  | 57  | 145  | 10  | 16   | 08  | 67 | 09  | 00  | 4221            | 18         | 12         | 20          | 23  |   | 33  |   | X     | 9 |
| 065       | 50  | 03  | 144  | 58  | 16   | 08  | 67 | 12  | 00  | 4221            | 18         | 02         | 25          | 23  |   | 33  |   | X     | 8 |
| 066       | 50  | 03  | 145  | 03  | 16   | 08  | 67 | 15  | 00  | 4221            | 18         | 02         | 20          | 23  |   | 33  |   | 6     | 7 |
| 067       | 50  | 04  | 145  | 06  | 16   | 08  | 67 | 18  | 00  | 4221            | 18         | 02         | 22          | 23  |   | 33  |   | 6     | 7 |
| 068       | 50  | 05  | 145  | 08  | 16   | 08  | 67 | 21  | 00  | 4221            | 18         | 02         | 15          | 22  |   | 32  |   | 6     | 6 |
| 069       | 50  | 01  | 144  | 58  | 17   | 08  | 67 | 00  | 00  | 4221            | 18         | 02         | 15          | 21  |   | 22  |   | 6     | 6 |
| 070       | 50  | 03  | 145  | 00  | 17   | 08  | 67 | 03  | 00  | 4221            | 18         | 02         | 15          | 21  |   | 22  |   | 6     | 6 |
| 071       | 50  | 01  | 145  | 04  | 17   | 08  | 67 | 06  | 00  | 4221            | 18         | 02         | 15          | 21  |   | 22  |   | 6     | 6 |
| 072       | 49  | 57  | 145  | 06  | 17   | 08  | 67 | 09  | 00  | 4221            | 17         | 02         | 15          | 21  |   | 22  |   | 6     | 6 |
| 073       | 50  | 00  | 145  | 00  | 17   | 08  | 67 | 12  | 00  | 4221            | 17         | 02         | 15          | 21  |   | 22  |   | 6     | 8 |
| 074       | 50  | 07  | 145  | 00  | 17   | 08  | 67 | 15  | 00  | 4221            | 16         | 11         | 06          | 21  |   | 22  |   | 5     | 6 |
| 075       | 50  | 00  | 145  | 00  | 17   | 08  | 67 | 18  | 00  | 4221            | 16         | 03         | 10          | 21  |   | 22  |   | 6     | 8 |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W-1 |    | W-2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 076       | 50  | 02  | 145  | 01  | 17   | 08  | 67 | 21  | 00  | 4221            | 16         | 03         | 10          | 21  | 22 | 6   | 8 |       |   |
| 077       | 50  | 04  | 145  | 07  | 18   | 08  | 67 | 00  | 00  | 4221            | 15         | 02         | 10          | 21  | 21 | 6   | 9 |       |   |
| 078       | 50  | 07  | 145  | 05  | 18   | 08  | 67 | 03  | 00  | 4221            | 14         | 15         | 10          | 21  | 22 | 5   | 7 |       |   |
| 079       | 50  | 07  | 145  | 05  | 18   | 08  | 67 | 06  | 00  | 4221            | 12         | 02         | 20          | 21  | 22 | 6   | 8 |       |   |
| 080       | 50  | 06  | 145  | 04  | 18   | 08  | 67 | 09  | 00  | 4221            | 10         | 02         | 25          | 22  | 22 | X   | 9 |       |   |
| 081       | 50  | 01  | 144  | 57  | 18   | 08  | 67 | 15  | 00  | 4221            | 08         | 12         | 08          | 21  | 33 | X   | 9 |       |   |
| 082       | 50  | 01  | 145  | 07  | 20   | 08  | 67 | 06  | 00  | 4221            | 14         | 02         | 15          | 21  | 33 | X   | 9 |       |   |
| 083       | 50  | 02  | 145  | 06  | 20   | 08  | 67 | 09  | 00  | 4221            | 14         | 02         | 15          | 21  | 33 | X   | 9 |       |   |
| 084       | 50  | 03  | 145  | 04  | 20   | 08  | 67 | 12  | 00  | 4221            | 14         | 02         | 10          | 22  | 32 | X   | 8 |       |   |
| 085       | 50  | 07  | 145  | 01  | 20   | 08  | 67 | 15  | 00  | 4221            | 16         | 02         | 12          | 22  | 32 | 6   | 7 |       |   |
| 086       | 50  | 02  | 145  | 05  | 20   | 08  | 67 | 18  | 00  | 4221            | 13         | 02         | 15          | 22  | 32 | 6   | 6 |       |   |
| 087       | 50  | 05  | 144  | 58  | 20   | 08  | 67 | 21  | 00  | 4221            | 13         | 02         | 15          | 22  | 32 | 6   | 8 |       |   |
| 088       | 50  | 00  | 145  | 00  | 21   | 08  | 67 | 03  | 00  | 4221            | 10         | 12         | 20          | 23  | 23 | 8   | 9 |       |   |
| 089       | 49  | 56  | 144  | 57  | 21   | 08  | 67 | 06  | 00  | 4221            | 08         | 02         | 20          | 23  | 23 | X   | 9 |       |   |
| 090       | 49  | 57  | 144  | 56  | 21   | 08  | 67 | 09  | 00  | 4221            | 08         | 02         | 35          | 23  | 22 | 6   | 8 |       |   |
| 091       | 49  | 56  | 144  | 55  | 21   | 08  | 67 | 15  | 00  | 4221            | 11         | 02         | 27          | 22  | 33 | 8   | 4 |       |   |
| 092       | 49  | 56  | 144  | 49  | 21   | 08  | 67 | 18  | 00  | 4221            | 12         | 02         | 25          | 22  | 33 | 6   | 8 |       |   |
| 093       | 49  | 56  | 144  | 51  | 21   | 08  | 67 | 21  | 00  | 4221            | 11         | 02         | 25          | 22  | 33 | 6   | 8 |       |   |
| 094       | 50  | 03  | 145  | 07  | 22   | 08  | 67 | 03  | 00  | 4221            | 13         | 02         | 30          | 34  | 34 | 6   | 7 |       |   |
| 095       | 50  | 00  | 145  | 00  | 23   | 08  | 67 | 15  | 00  | 4221            | 18         | 02         | 30          | 22  | 33 | 3   | 7 |       |   |
| 096       | 49  | 57  | 145  | 07  | 23   | 08  | 67 | 18  | 00  | 4221            | 18         | 02         | 15          | 22  | 34 | 6   | 7 |       |   |
| 097       | 50  | 00  | 145  | 04  | 23   | 08  | 67 | 21  | 00  | 4221            | 18         | 02         | 20          | 22  | 23 | 6   | 8 |       |   |
| 098       | 50  | 00  | 145  | 00  | 24   | 08  | 67 | 03  | 00  | 4221            | 14         | 11         | 12          | 22  | 34 | 6   | 7 |       |   |
| 099       | 49  | 58  | 145  | 02  | 24   | 08  | 67 | 18  | 00  | 4221            | 15         | 11         | 20          | 22  | 33 | X   | 9 |       |   |
| 100       | 49  | 57  | 145  | 01  | 24   | 08  | 67 | 21  | 00  | 4221            | 16         | 01         | 15          | 22  | 32 | 6   | 8 |       |   |

TABLE 2

| CON<br>No | LAT |     | LONG |     | DATE |     |    | GMT |     | DEPTH<br>Metres | BAR<br>Mbs | WW<br>Code | WIND<br>Aml | W 1 |   | W 2 |   | CLOUD |   |
|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|---|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H | P   | H | T     | A |
| 101       | 49  | 56  | 145  | 03  | 25   | 08  | 67 | 00  | 00  | 4221            | 15         | 02         | 20          | 22  |   | 32  |   | 6     | 8 |
| 102       | 49  | 56  | 145  | 02  | 25   | 08  | 67 | 03  | 00  | 4221            | 14         | 02         | 18          | 22  |   | 32  |   | 6     | 8 |
| 103       | 50  | 01  | 144  | 58  | 25   | 08  | 67 | 06  | 00  | 4221            | 14         | 02         | 18          | 22  |   | 32  |   | 6     | 8 |
| 104       | 50  | 04  | 144  | 54  | 25   | 08  | 67 | 09  | 00  | 4221            | 14         | 02         | 20          | 22  |   | 32  |   | X     | 9 |
| 105       | 49  | 55  | 144  | 57  | 25   | 08  | 67 | 15  | 00  | 4221            | 13         | 02         | 22          | 22  |   | 32  |   | 3     | 6 |
| 106       | 50  | 00  | 145  | 00  | 25   | 08  | 67 | 18  | 00  | 4221            | 14         | 01         | 20          | 22  |   | 32  |   | 4     | 6 |
| 107       | 50  | 02  | 144  | 55  | 25   | 08  | 67 | 21  | 00  | 4221            | 14         | 02         | 20          | 22  |   | 32  |   | 6     | 6 |
| 108       | 49  | 57  | 145  | 01  | 26   | 08  | 67 | 03  | 00  | 4221            | 14         | 02         | 25          | 22  |   | 32  |   | 6     | 6 |
| 109       | 49  | 54  | 145  | 10  | 26   | 08  | 67 | 06  | 00  | 4221            | 14         | 02         | 25          | 22  |   | 32  |   | 6     | 6 |
| 110       | 49  | 57  | 145  | 06  | 26   | 08  | 67 | 09  | 00  | 4221            | 16         | 02         | 18          | 22  |   | 32  |   | 6     | 6 |
| 111       | 50  | 00  | 145  | 06  | 26   | 08  | 67 | 12  | 00  | 4221            | 16         | 02         | 20          | 22  |   | 33  |   | X     | X |
| 112       | 49  | 58  | 145  | 05  | 26   | 08  | 67 | 15  | 00  | 4221            | 16         | 02         | 10          | 21  |   | 33  |   | 6     | 6 |
| 113       | 49  | 58  | 145  | 05  | 26   | 08  | 67 | 18  | 00  | 4221            | 16         | 02         | 10          | 21  |   | 33  |   | 6     | 7 |
| 114       | 49  | 59  | 145  | 02  | 26   | 08  | 67 | 21  | 00  | 4221            | 15         | 02         | 10          | 21  |   | 33  |   | 6     | 7 |
| 115       | 50  | 00  | 145  | 01  | 27   | 08  | 67 | 00  | 00  | 4221            | 12         | 02         | 15          | 21  |   | 32  |   | 6     | 7 |
| 116       | 50  | 03  | 144  | 58  | 27   | 08  | 67 | 03  | 00  | 4221            | 10         | 02         | 10          | 21  |   | 43  |   | 6     | 2 |
| 117       | 49  | 58  | 145  | 05  | 27   | 08  | 67 | 06  | 00  | 4221            | 08         | 02         | 20          | 21  |   | 32  |   | 6     | 7 |
| 118       | 49  | 59  | 145  | 04  | 27   | 08  | 67 | 09  | 00  | 4221            | 05         | 02         | 25          | 21  |   | 32  |   | X     | 9 |
| 120       | 50  | 01  | 145  | 01  | 31   | 08  | 67 | 06  | 00  | 4221            | -96        | 03         | 25          | 21  |   | 31  |   | X     | 9 |
| 121       | 50  | 00  | 145  | 02  | 31   | 08  | 67 | 09  | 00  | 4221            | -97        | 02         | 25          | 21  |   | 31  |   | X     | 9 |
| 122       | 50  | 02  | 145  | 01  | 31   | 08  | 67 | 12  | 00  | 4221            | -97        | 02         | 25          | 21  |   | 22  |   | X     | 9 |
| 123       | 50  | 02  | 144  | 55  | 31   | 08  | 67 | 15  | 00  | 4221            | -95        | 02         | 23          | 21  |   | 22  |   | 6     | 9 |
| 124       | 50  | 00  | 145  | 02  | 31   | 08  | 67 | 18  | 00  | 4221            | -93        | 02         | 15          | 21  |   | 22  |   | 6     | 8 |
| 125       | 50  | 03  | 145  | 00  | 31   | 08  | 67 | 21  | 00  | 4221            | -93        | 02         | 15          | 21  |   | 22  |   | X     | 9 |
| 126       | 50  | 00  | 145  | 07  | 04   | 09  | 67 | 06  | 00  | 4221            | 01         | 01         | 20          | 21  |   | 22  |   | 6     | 6 |



TABLE 2

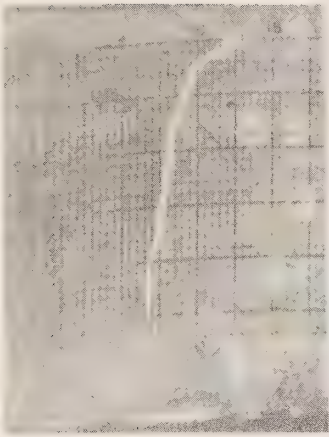
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|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
| 127       | 50  | 00  | 145  | 00  | 04   | 09  | 67 | 09  | 00  | 4221            | 01         | 02         | 20          | 21  | 22 | 6   | 6 |       |   |
| 128       | 50  | 03  | 145  | 03  | 04   | 09  | 67 | 15  | 00  | 4221            | 01         | 02         | 15          | 21  | 45 | 6   | 6 |       |   |
| 129       | 49  | 58  | 145  | 10  | 04   | 09  | 67 | 18  | 00  | 4221            | 01         | 02         | 15          | 21  | 23 | 6   | 6 |       |   |
| 130       | 50  | 01  | 145  | 03  | 04   | 09  | 67 | 21  | 00  | 4221            | 00         | 02         | 20          | 21  | 23 | 6   | 8 |       |   |
| 131       | 50  | 02  | 145  | 00  | 05   | 09  | 67 | 00  | 00  | 4221            | -99        | 20         | 15          | 21  | 24 | 6   | 9 |       |   |
| 132       | 50  | 01  | 145  | 08  | 05   | 09  | 67 | 03  | 00  | 4221            | -99        | 01         | 18          | 21  | 44 | 6   | 3 |       |   |
| 133       | 49  | 59  | 145  | 17  | 05   | 09  | 67 | 06  | 00  | 4221            | 00         | 02         | 15          | 21  | 24 | 6   | 8 |       |   |
| 134       | 50  | 00  | 145  | 10  | 05   | 09  | 67 | 09  | 00  | 4221            | 00         | 02         | 25          | 21  | 24 | 6   | 8 |       |   |
| 135       | 49  | 57  | 145  | 04  | 05   | 09  | 67 | 15  | 00  | 4221            | 02         | 02         | 18          | 21  | 33 | 6   | 8 |       |   |
| 136       | 49  | 56  | 145  | 03  | 05   | 09  | 67 | 18  | 00  | 4221            | 04         | 02         | 15          | 21  | 33 | 6   | 8 |       |   |
| 137       | 49  | 58  | 145  | 05  | 05   | 09  | 67 | 21  | 00  | 4221            | 04         | 01         | 15          | 21  | 33 | 6   | 8 |       |   |
| 138       | 50  | 01  | 144  | 59  | 06   | 09  | 67 | 00  | 00  | 4221            | 05         | 02         | 15          | 22  | 33 | 6   | 6 |       |   |
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| 141       | 49  | 53  | 144  | 57  | 06   | 09  | 67 | 15  | 00  | 4221            | -99        | 02         | 20          | 22  | 33 | 6   | 9 |       |   |
| 142       | 50  | 00  | 145  | 02  | 07   | 09  | 67 | 00  | 00  | 4221            | -99        | 02         | 20          | 23  | 33 | 6   | 7 |       |   |
| 143       | 49  | 55  | 145  | 07  | 07   | 09  | 67 | 06  | 00  | 4221            | 01         | 02         | 18          | 22  | 32 | 6   | 7 |       |   |
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| 145       | 49  | 57  | 145  | 04  | 07   | 09  | 67 | 12  | 00  | 4221            | 03         | 02         | 18          | 22  | 22 | X   | 8 |       |   |
| 146       | 49  | 57  | 144  | 59  | 07   | 09  | 67 | 15  | 00  | 4221            | 04         | 00         | 15          | 21  | 32 | 7   | 8 |       |   |
| 147       | 49  | 56  | 144  | 58  | 07   | 09  | 67 | 18  | 00  | 4221            | 04         | 03         | 20          | 21  | 32 | 7   | 7 |       |   |
| 148       | 49  | 53  | 144  | 53  | 07   | 09  | 67 | 21  | 00  | 4221            | 08         | 02         | 15          | 21  | 32 | 7   | 7 |       |   |
| 149       | 50  | 00  | 145  | 00  | 08   | 09  | 67 | 00  | 00  | 4221            | 08         | 02         | 15          | 21  | 33 | 7   | 6 |       |   |
| 150       | 49  | 58  | 144  | 58  | 08   | 09  | 67 | 03  | 00  | 4221            | 09         | 02         | 15          | 21  | 33 | 7   | 5 |       |   |
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TABLE 2

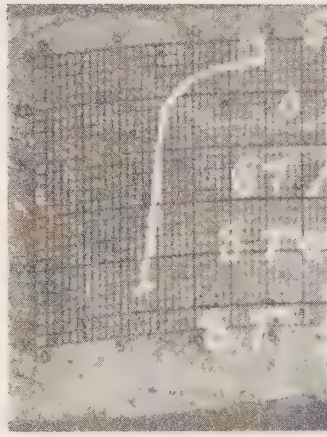
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|-----------|-----|-----|------|-----|------|-----|----|-----|-----|-----------------|------------|------------|-------------|-----|----|-----|---|-------|---|
|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min |                 |            |            |             | P   | H  | P   | H | T     | A |
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| 155       | 50  | 02  | 144  | 57  | 08   | 09  | 67 | 18  | 00  | 4221            | 07         | 02         | 25          | 23  | 43 |     |   | 6     | 7 |
| 156       | 50  | 05  | 144  | 57  | 09   | 09  | 67 | 00  | 00  | 4221            | 08         | 02         | 25          | 33  | 44 |     |   | 6     | 5 |
| 157       | 49  | 59  | 145  | 02  | 09   | 09  | 67 | 03  | 00  | 4221            | 09         | 02         | 25          | 33  | 44 |     |   | 6     | 5 |
| 158       | 49  | 59  | 145  | 11  | 09   | 09  | 67 | 06  | 00  | 4221            | 10         | 02         | 20          | 23  | 23 |     |   | 6     | 5 |
| 159       | 50  | 00  | 145  | 05  | 09   | 09  | 67 | 09  | 00  | 4221            | 10         | 02         | 20          | 22  | 23 |     |   | 6     | 6 |
| 160       | 50  | 07  | 144  | 55  | 09   | 09  | 67 | 15  | 00  | 4221            | 06         | 03         | 32          | 23  | 34 |     |   | 5     | 6 |
| 161       | 50  | 00  | 145  | 15  | 10   | 09  | 67 | 00  | 00  | 4221            | 05         | 05         | 35          | 33  | 34 |     |   | 5     | 3 |
| 162       | 49  | 57  | 145  | 22  | 10   | 09  | 67 | 03  | 00  | 4221            | 06         | 02         | 35          | 33  | 34 |     |   | 8     | 4 |
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| 164       | 50  | 02  | 145  | 05  | 10   | 09  | 67 | 15  | 00  | 4221            | 07         | 02         | 10          | 21  | 33 |     |   | 8     | 6 |
| 165       | 50  | 01  | 145  | 10  | 10   | 09  | 67 | 18  | 00  | 4221            | 07         | 02         | 10          | 21  | 33 |     |   | 8     | 6 |
| 166       | 50  | 02  | 145  | 07  | 10   | 09  | 67 | 21  | 00  | 4221            | 07         | 02         | 10          | 21  | 33 |     |   | 8     | 6 |
| 167       | 50  | 01  | 145  | 06  | 11   | 09  | 67 | 00  | 00  | 4221            | 08         | 02         | 13          | 11  | 33 |     |   | 5     | 4 |
| 168       | 50  | 00  | 144  | 58  | 11   | 09  | 67 | 03  | 00  | 4221            | 09         | 02         | 10          | XX  | 32 |     |   | 3     | 5 |
| 169       | 50  | 00  | 144  | 56  | 11   | 09  | 67 | 06  | 00  | 4221            | 10         | 02         | 10          | XX  | 21 |     |   | 3     | 5 |
| 170       | 49  | 57  | 144  | 55  | 11   | 09  | 67 | 09  | 00  | 4221            | 09         | 02         | 20          | 11  | 21 |     |   | 3     | 8 |
| 171       | 49  | 53  | 144  | 44  | 11   | 09  | 67 | 15  | 00  | 4221            | 02         | 02         | 38          | 23  | 23 |     |   | 7     | 8 |
| 172       | 50  | 04  | 144  | 55  | 14   | 09  | 67 | 15  | 00  | 4221            | -97        | 01         | 20          | 22  | 33 |     |   | 3     | 6 |
| 173       | 50  | 03  | 144  | 58  | 14   | 09  | 67 | 18  | 00  | 4221            | -98        | 01         | 20          | 23  | 33 |     |   | 3     | 4 |
| 174       | 50  | 00  | 145  | 00  | 14   | 09  | 67 | 21  | 00  | 4221            | -98        | 03         | 20          | 23  | 33 |     |   | 3     | 6 |
| 175       | 50  | 05  | 144  | 52  | 15   | 09  | 67 | 06  | 00  | 4221            | 02         | 01         | 10          | 00  | 23 |     |   | 3     | 1 |
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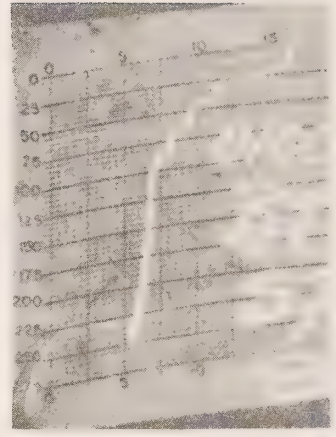
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|           | Deg | Min | Deg  | Min | Day  | Mon | Yr | Hrs | Min | Metres | Mbs | Code | Amt  | P   | H | P   | H | T     | A |
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| 179       | 50  | 05  | 144  | 55  | 15   | 09  | 67 | 18  | 00  | 4221   | 08  | 02   | 00   | 00  |   | 22  |   | 3     | 3 |
| 180       | 50  | 05  | 144  | 55  | 15   | 09  | 67 | 21  | 00  | 4221   | 08  | 02   | 03   | 00  |   | 22  |   | 3     | 1 |
| 181       | 50  | 00  | 145  | 00  | 16   | 09  | 67 | 00  | 00  | 4221   | 07  | 02   | 00   | 00  |   | 22  |   | 3     | 2 |
| 182       | 50  | 02  | 144  | 58  | 16   | 09  | 67 | 03  | 00  | 4221   | 07  | 02   | 02   | 00  |   | 22  |   | 3     | 2 |
| 183       | 50  | 02  | 144  | 59  | 16   | 09  | 67 | 06  | 00  | 4221   | 04  | 02   | 02   | 00  |   | 22  |   | 3     | 2 |
| 184       | 50  | 03  | 145  | 00  | 16   | 09  | 67 | 09  | 00  | 4221   | 03  | 02   | 02   | 00  |   | 22  |   | 3     | 2 |
| 185       | 50  | 04  | 145  | 00  | 16   | 09  | 67 | 12  | 00  | 4221   | 00  | 02   | 00   | 00  |   | 21  |   | 3     | 4 |
| 186       | 50  | 06  | 144  | 54  | 16   | 09  | 67 | 15  | 00  | 4221   | -99 | 02   | 10   | 21  |   | 21  |   | 6     | 7 |
| 187       | 50  | 00  | 144  | 58  | 16   | 09  | 67 | 18  | 00  | 4221   | -98 | 03   | 25   | 22  |   | 21  |   | 6     | 6 |
| 188       | 49  | 59  | 145  | 01  | 16   | 09  | 67 | 21  | 00  | 4221   | -93 | 02   | 30   | 23  |   | 21  |   | 6     | 3 |
| 189       | 49  | 48  | 144  | 57  | 17   | 09  | 67 | 06  | 00  | 4221   | -88 | 61   | 20   | 21  |   | 33  |   | X     | 9 |
| 190       | 49  | 58  | 144  | 59  | 17   | 09  | 67 | 09  | 00  | 4221   | -86 | 03   | 15   | 21  |   | 33  |   | 6     | 8 |
| 191       | 50  | 00  | 144  | 58  | 17   | 09  | 67 | 15  | 00  | 4221   | -86 | 18   | 25   | 33  |   | 55  |   | 9     | 4 |
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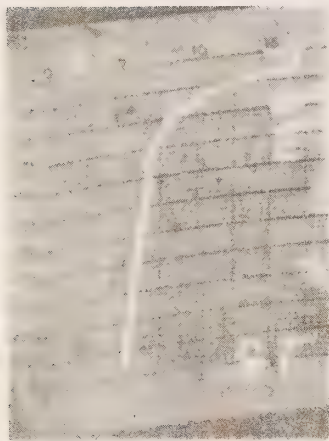
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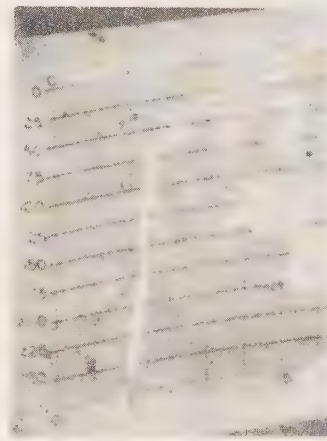
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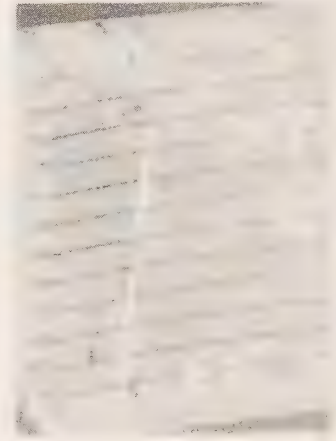
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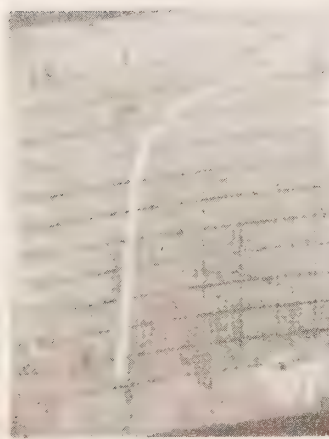
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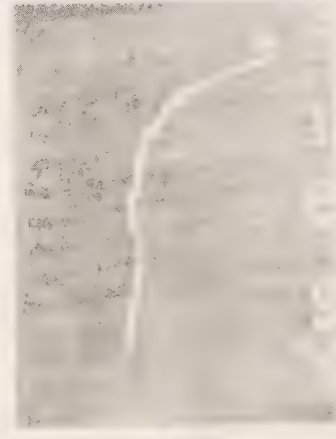
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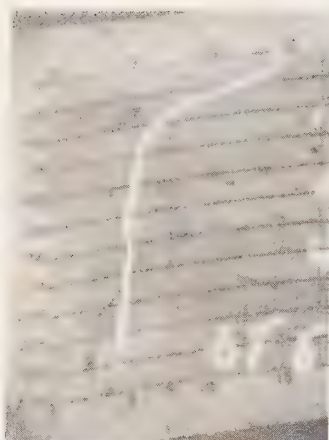


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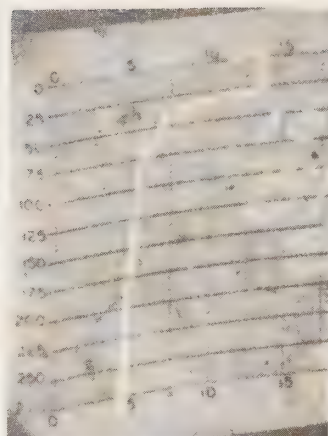


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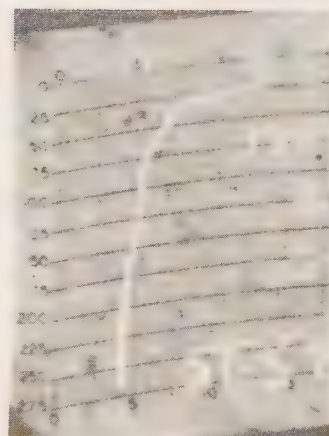




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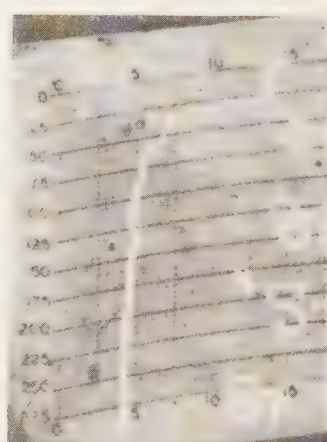
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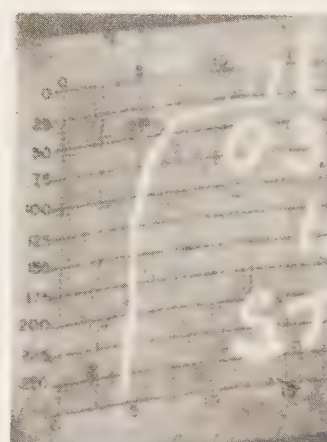
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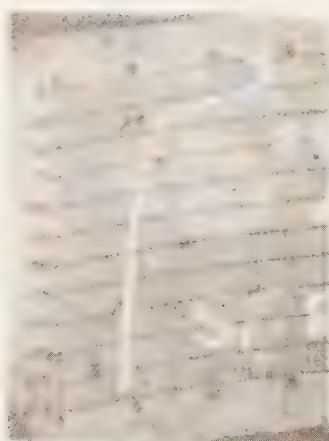
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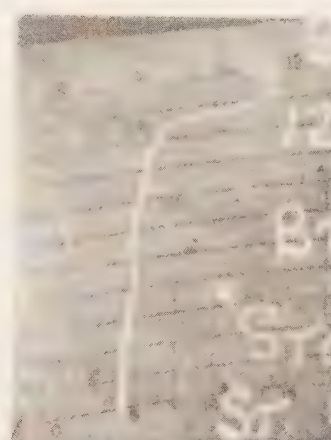
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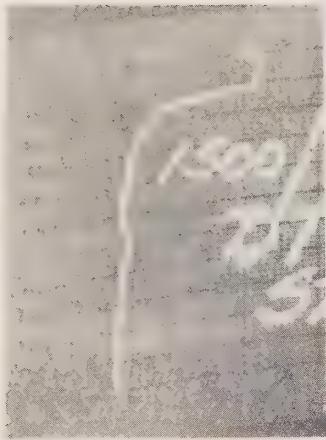


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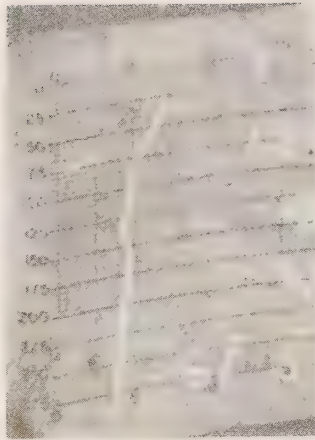


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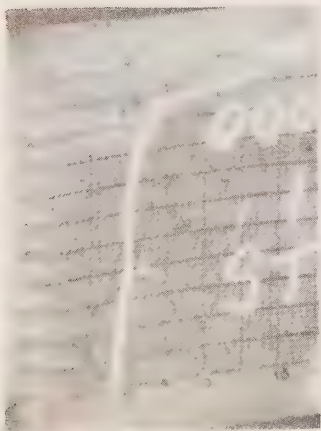
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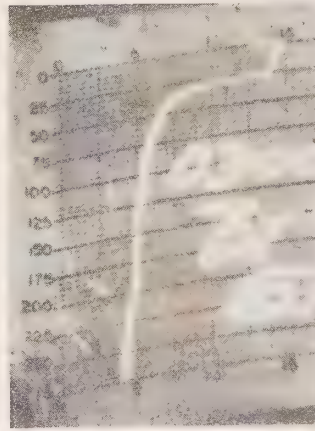
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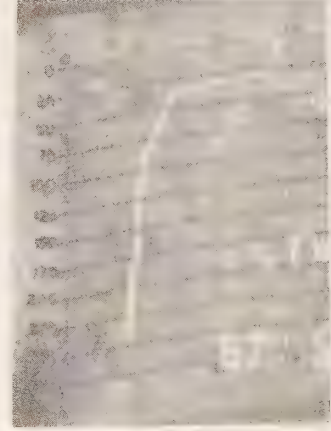
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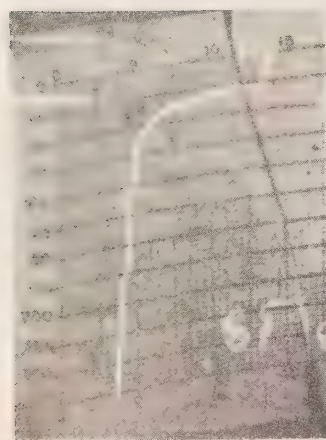
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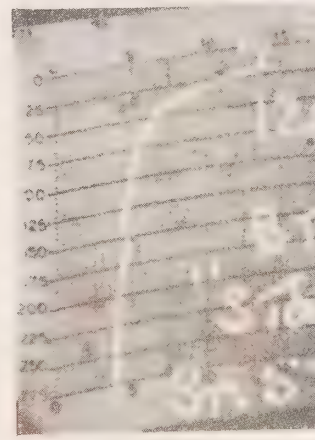
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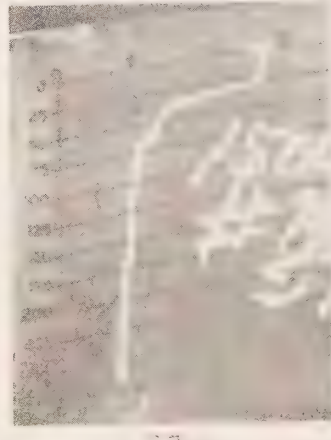
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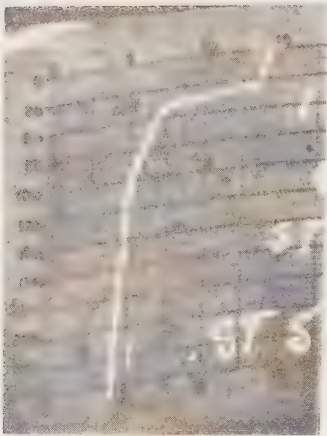
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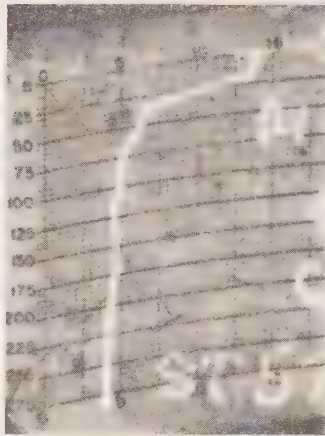
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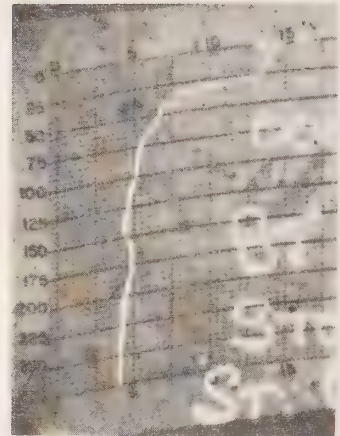
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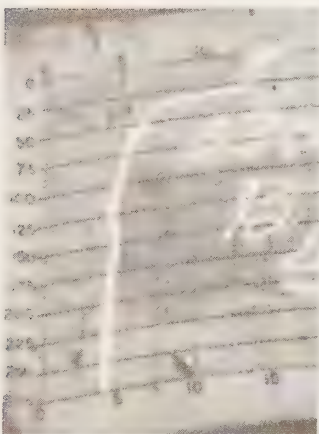
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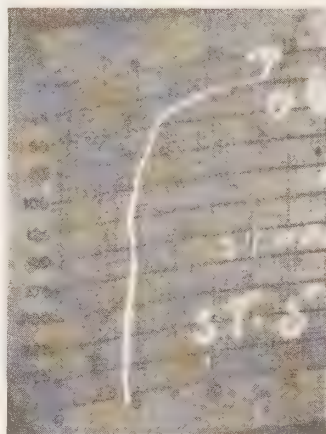
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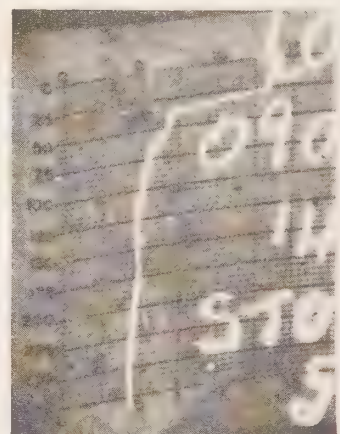
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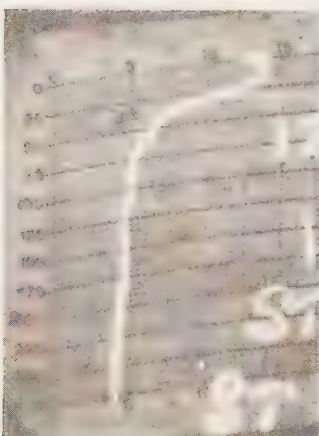
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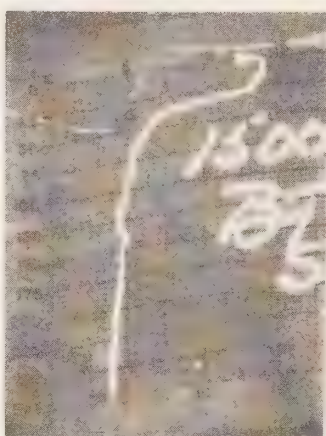
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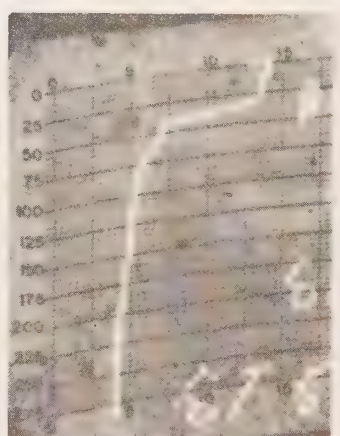
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34

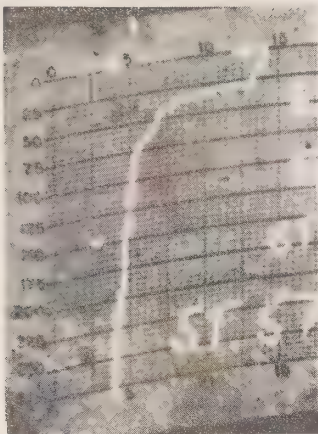


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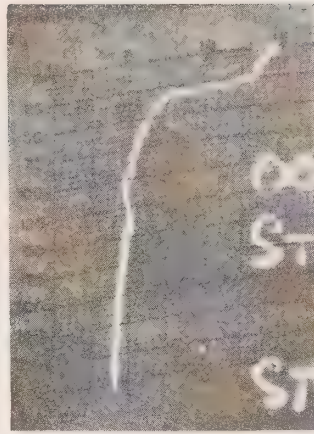


36





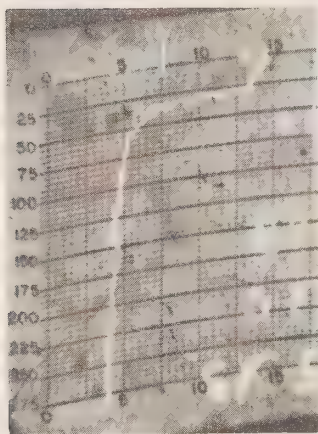
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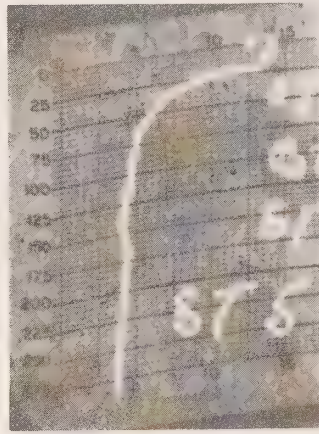
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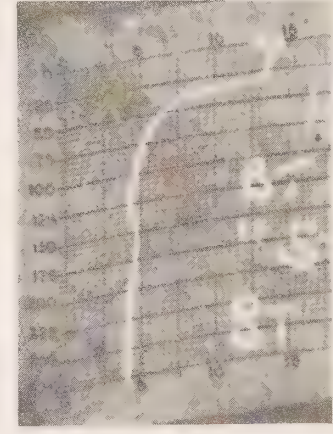
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40



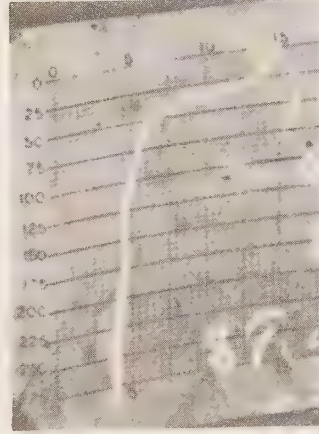
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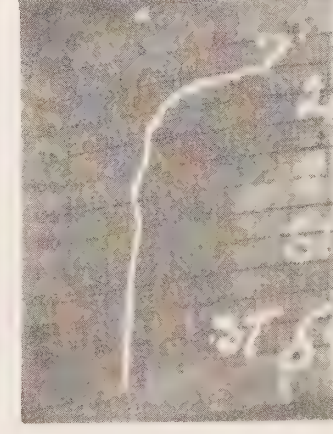
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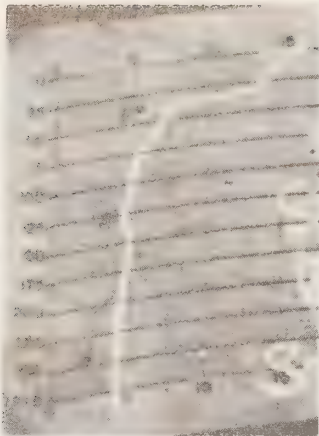


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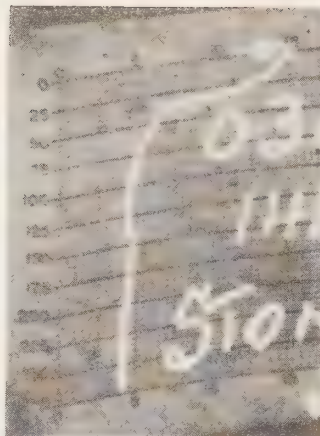


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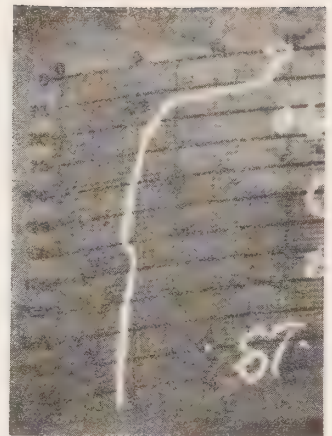




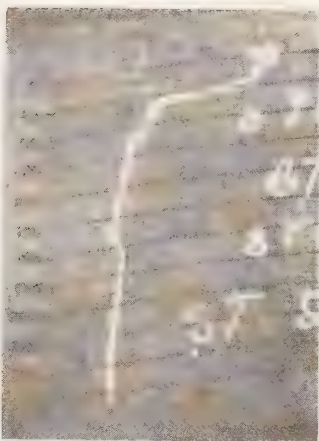
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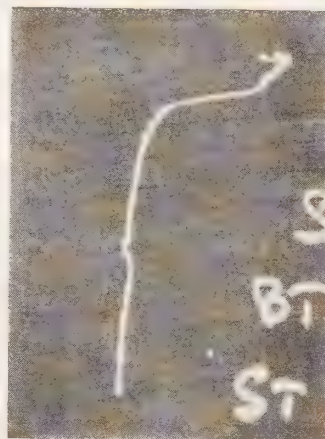
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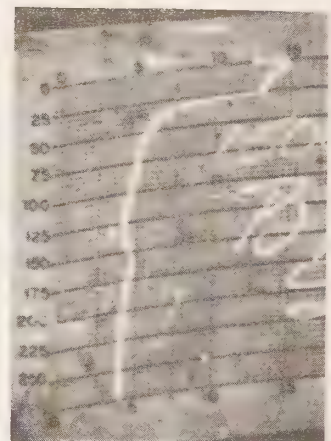
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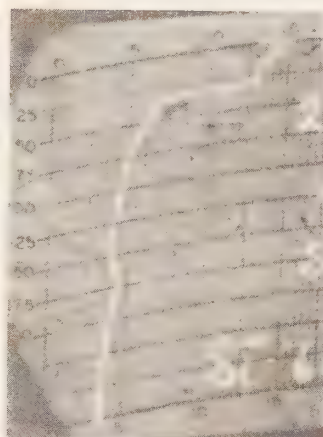
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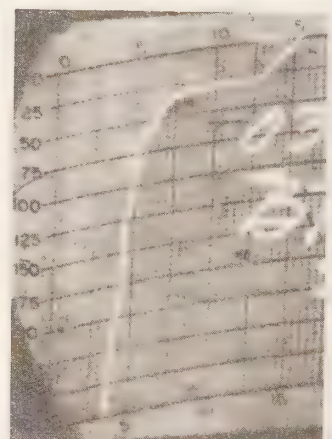
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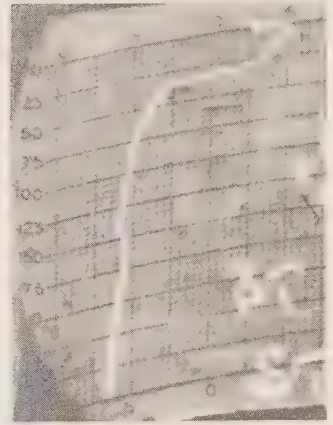
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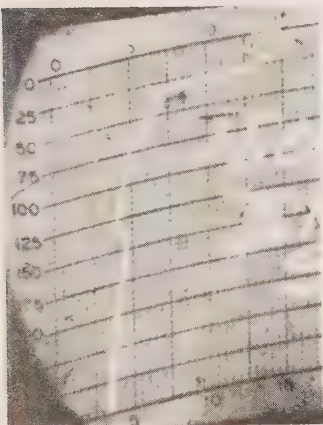
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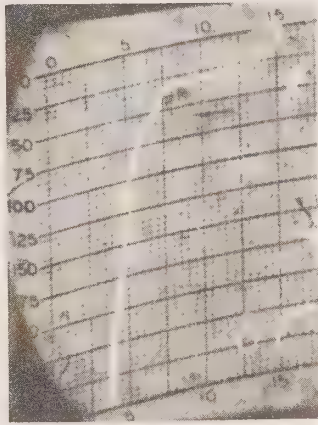
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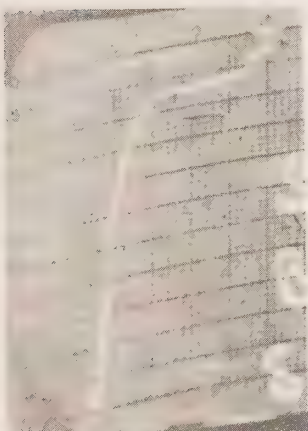
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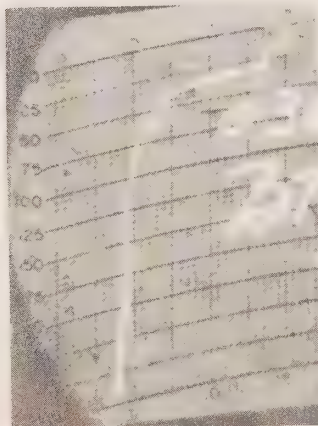
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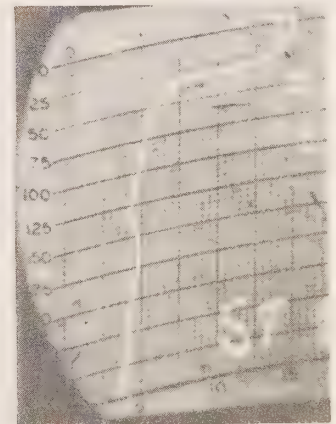
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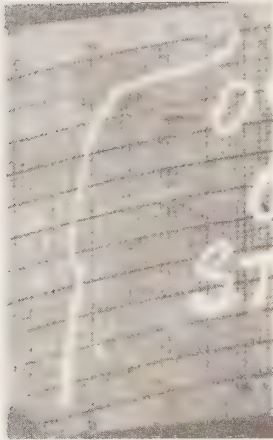


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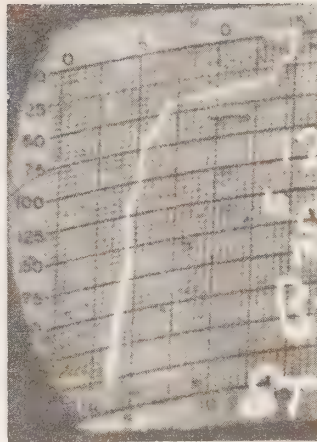


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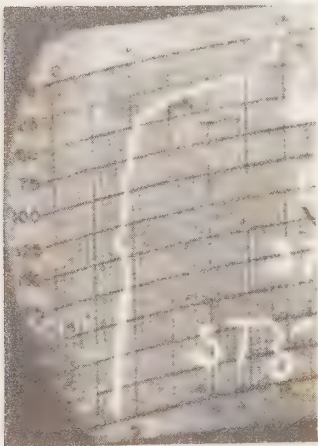
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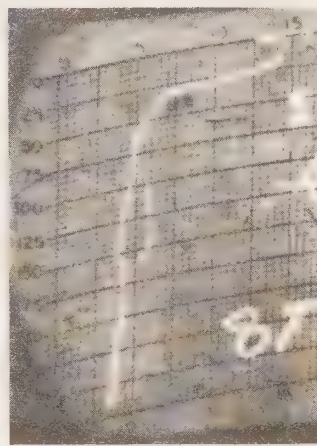
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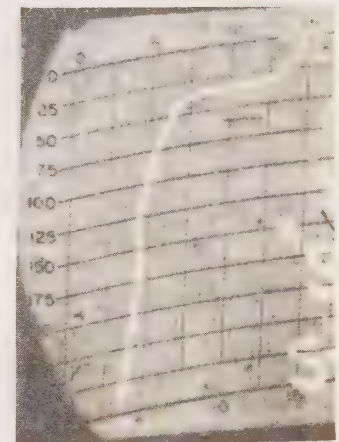
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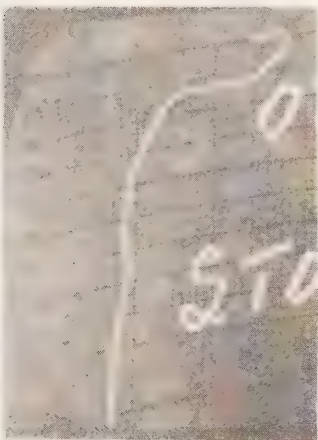
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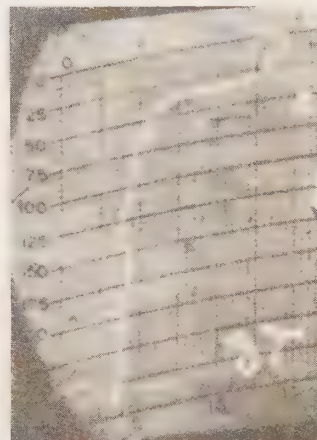
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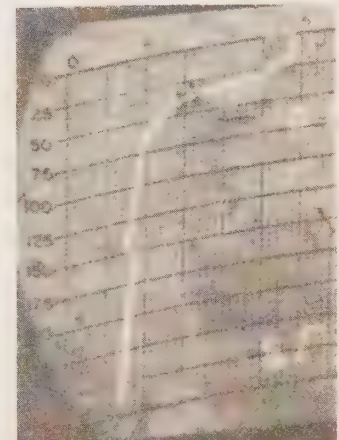
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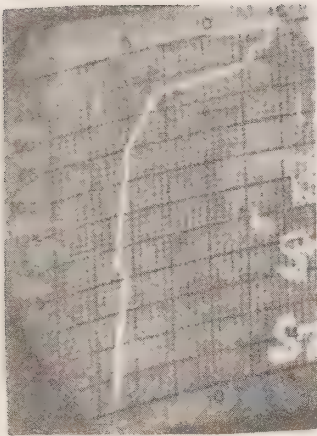
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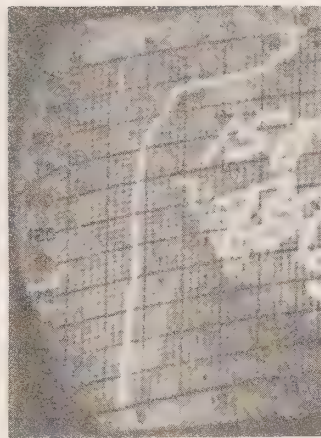
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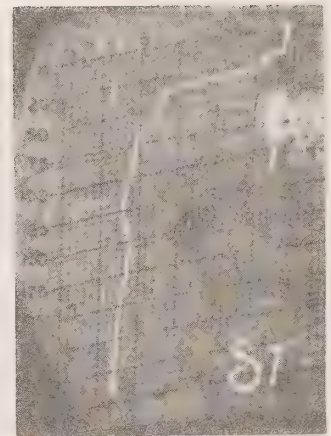
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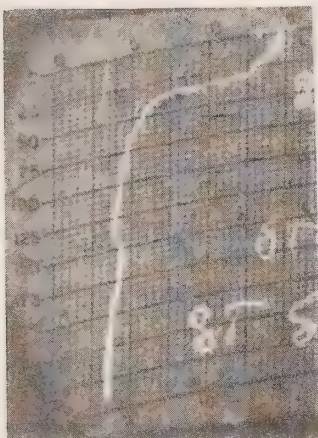
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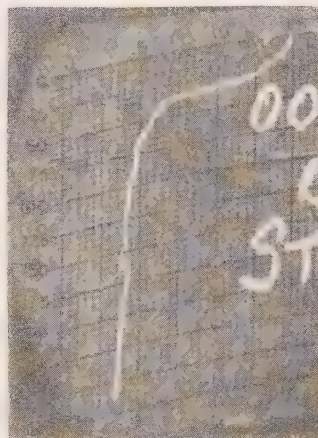
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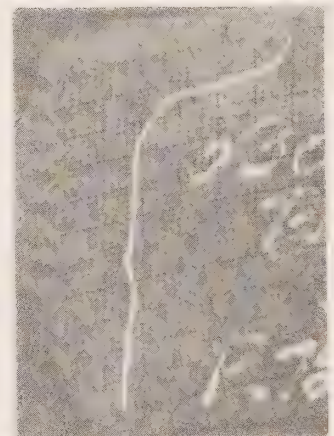
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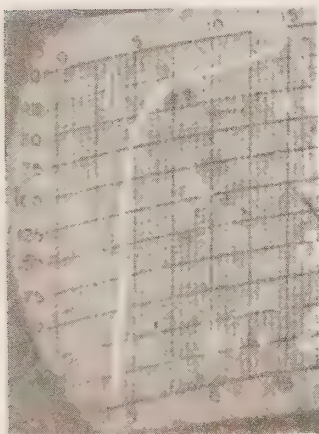
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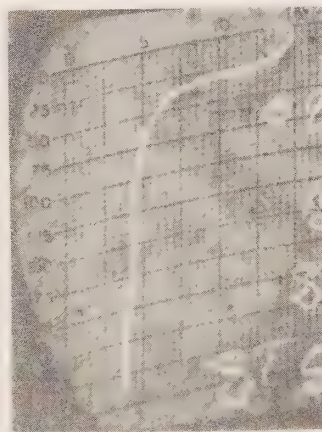
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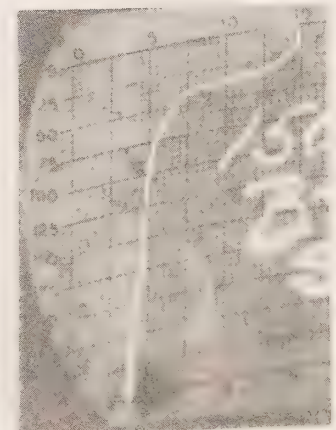
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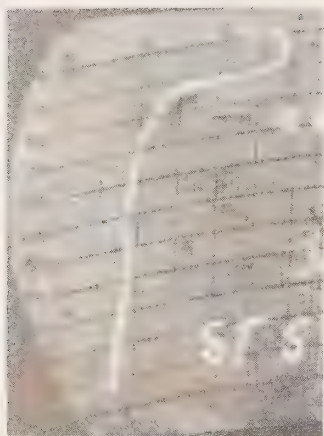


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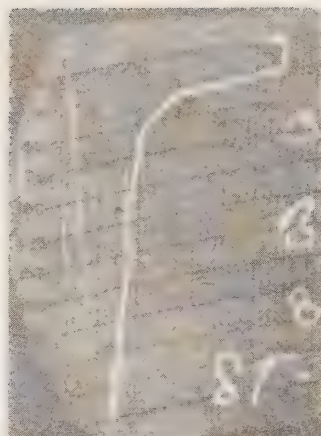


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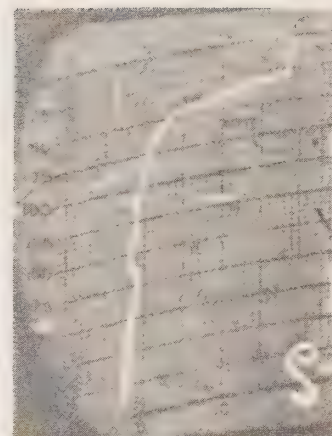




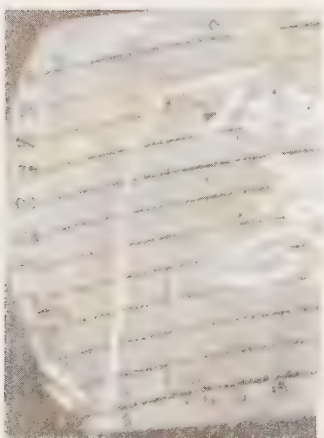
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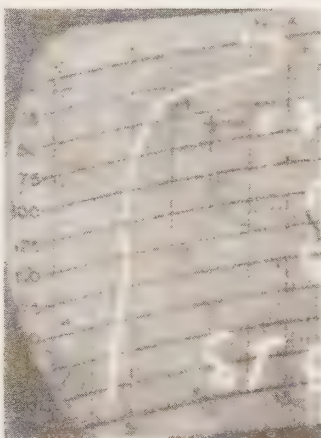
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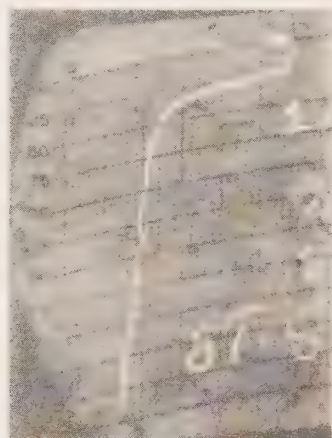
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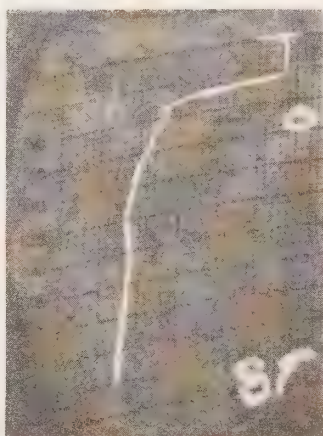
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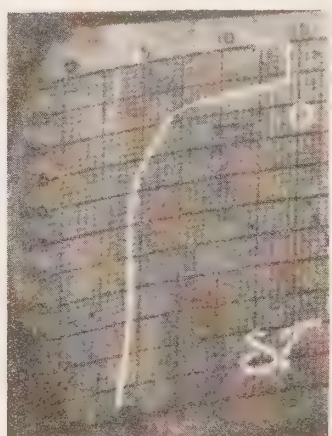
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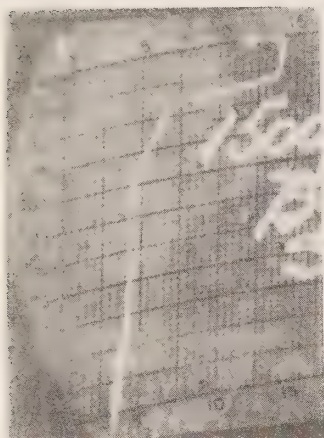
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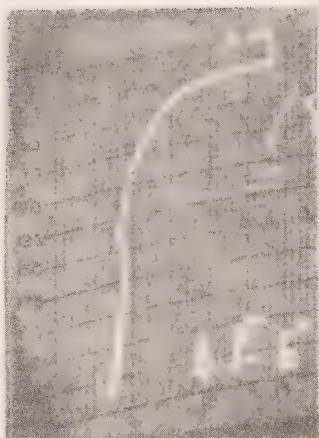
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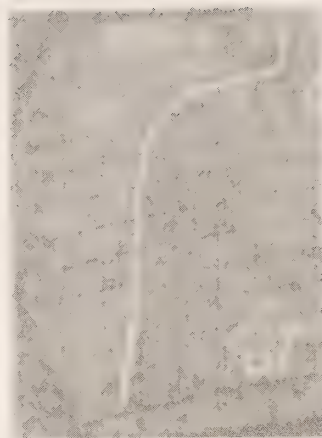
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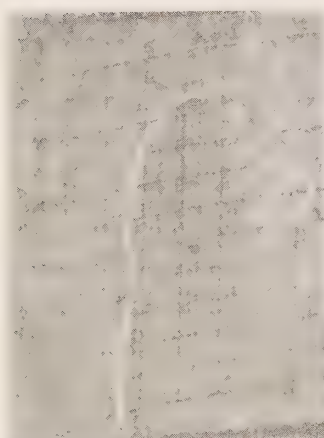
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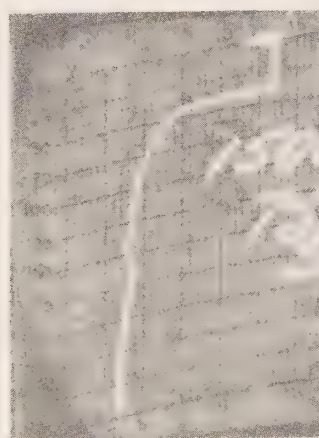
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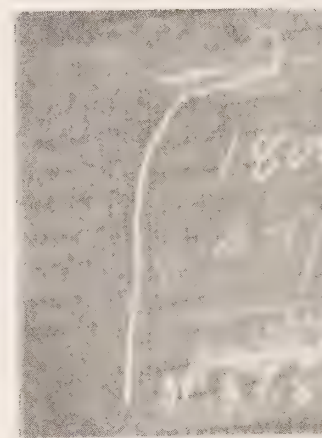
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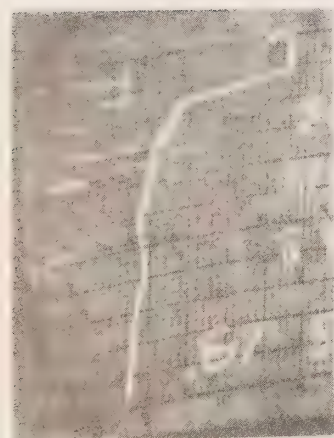
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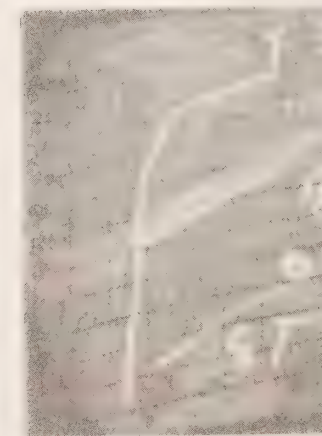
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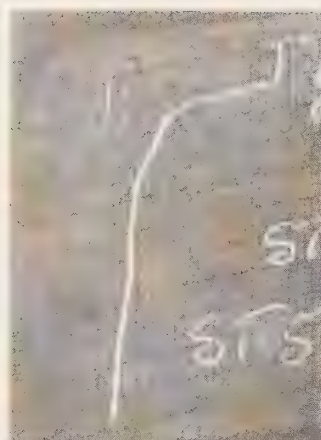


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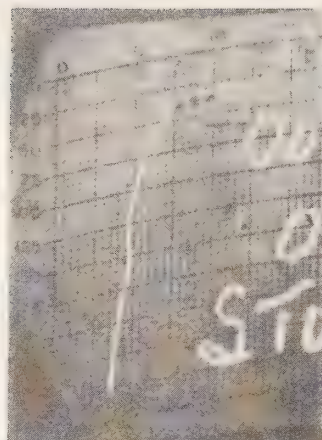


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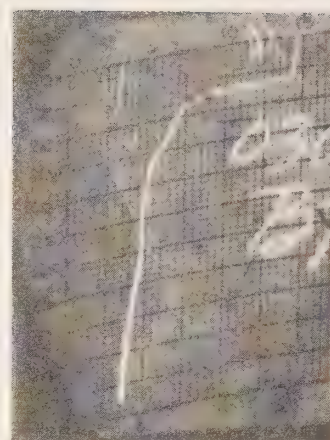




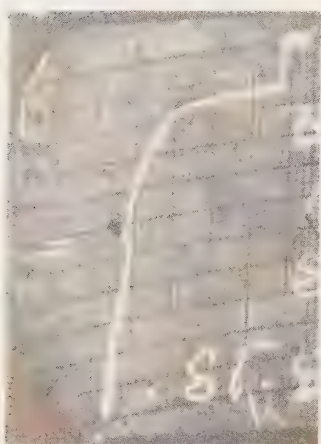
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102



103



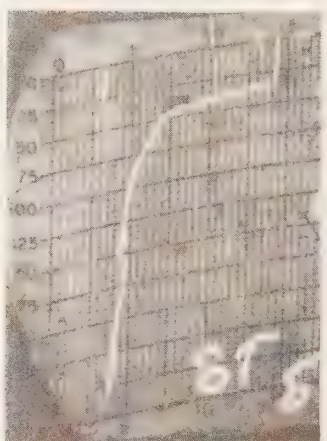
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105



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107

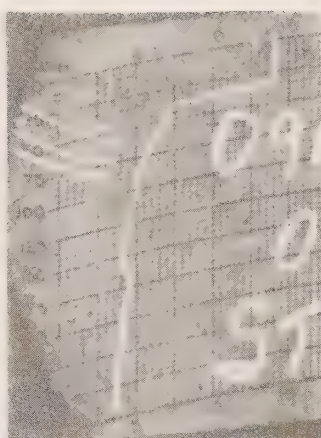


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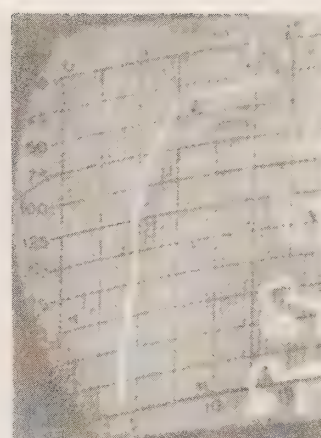




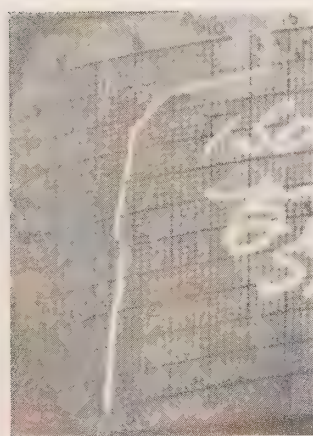
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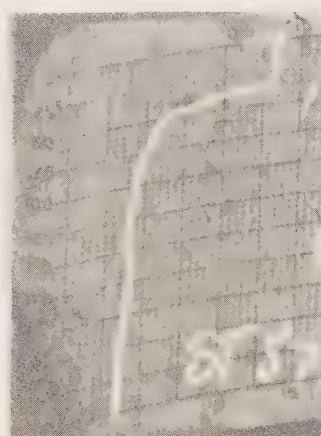
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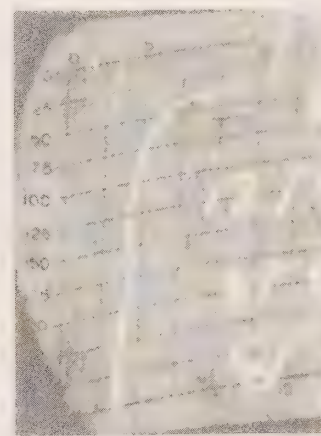
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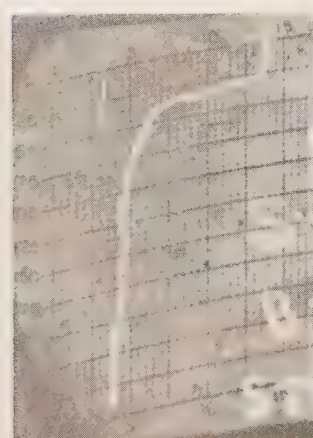
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113



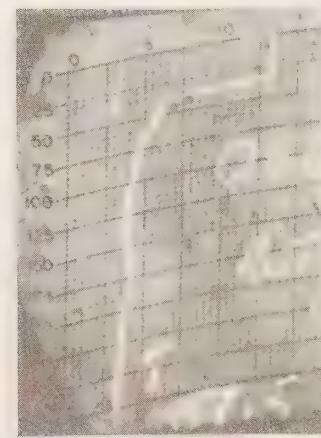
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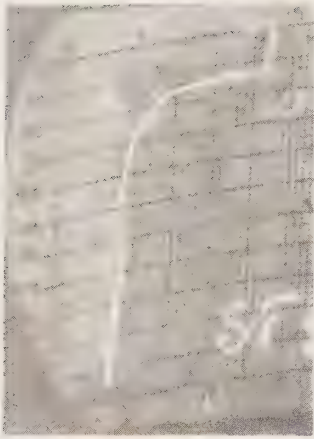
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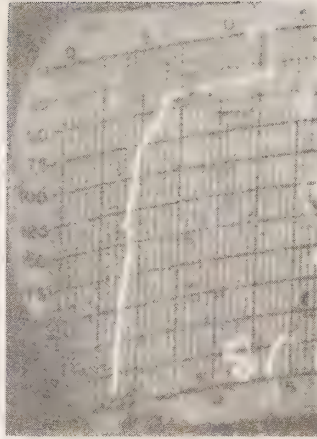
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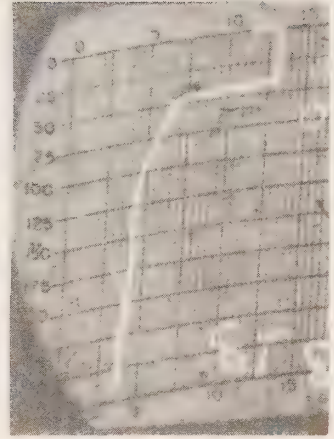
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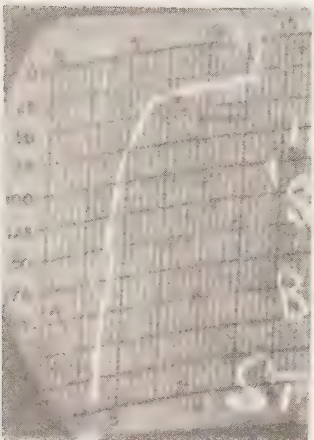
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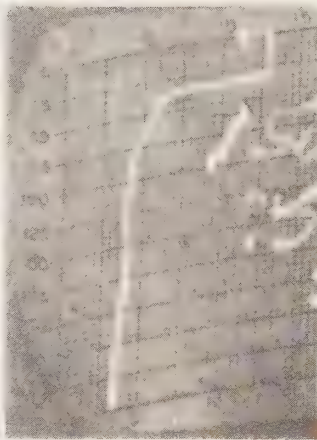
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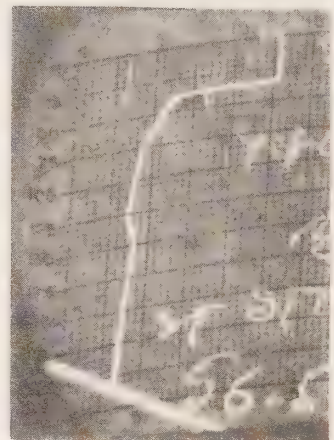
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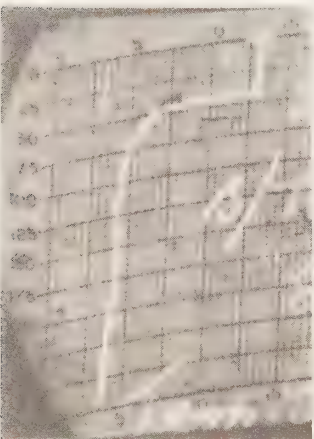
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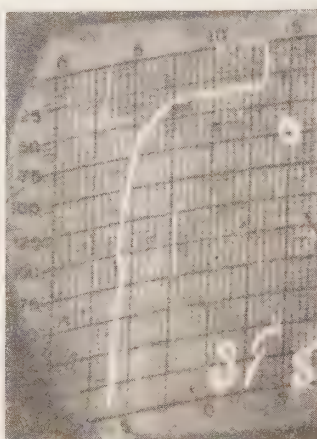
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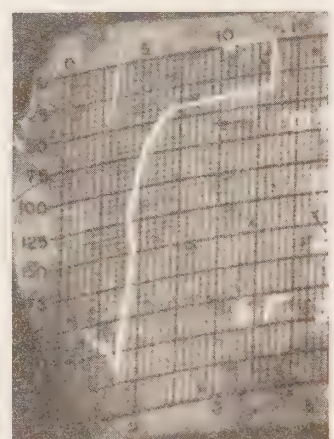
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125

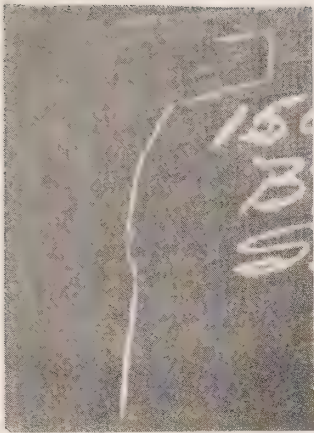


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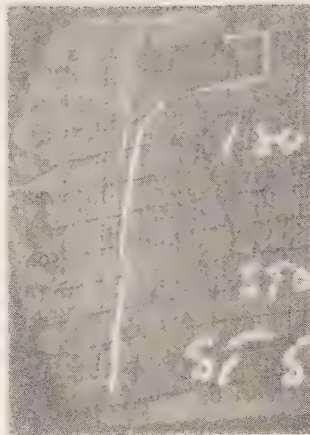


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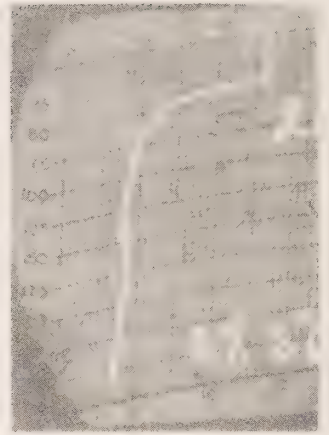




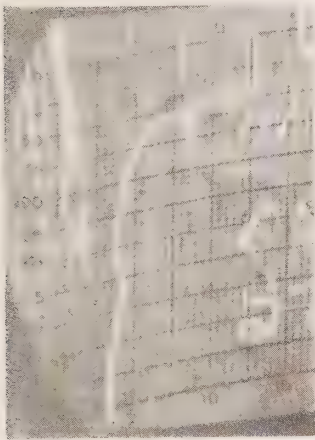
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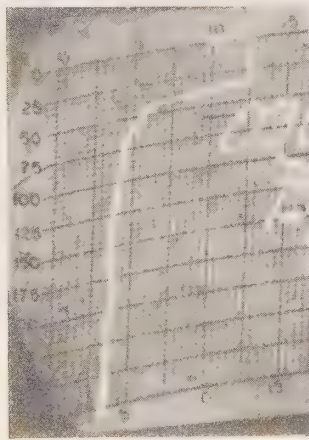
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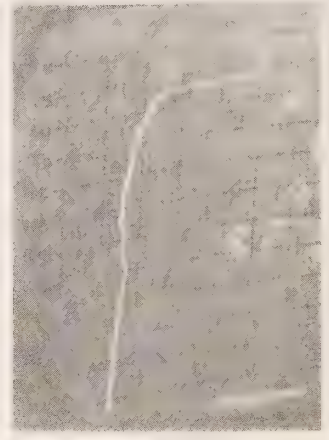
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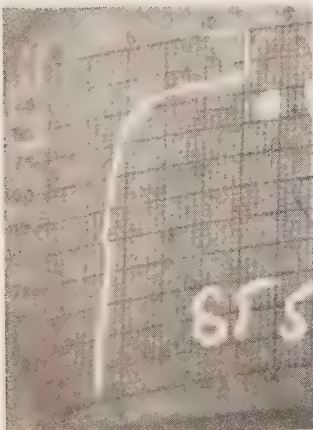
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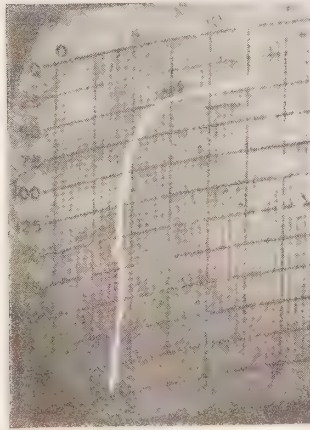
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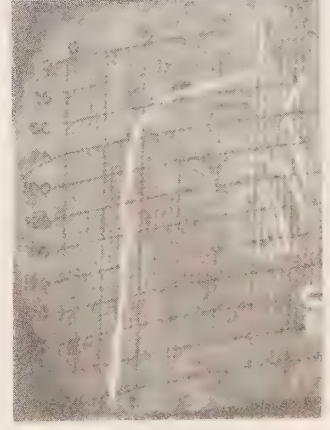
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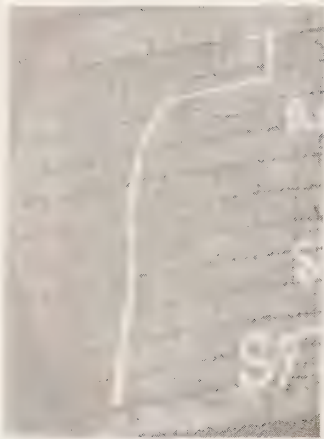
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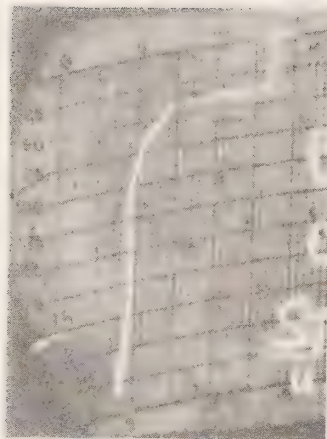
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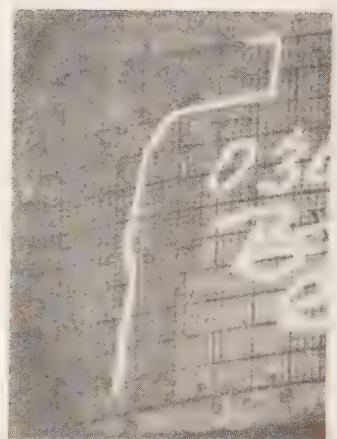
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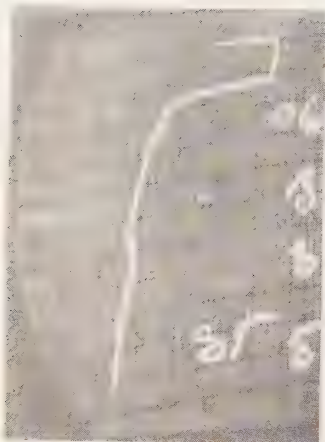
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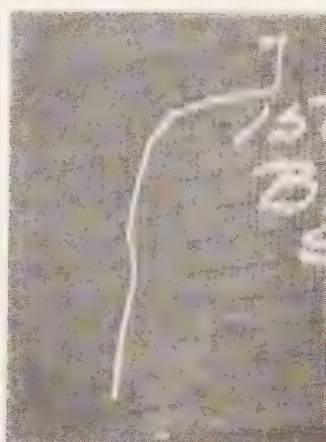
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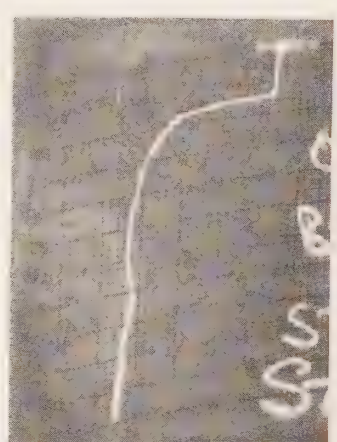
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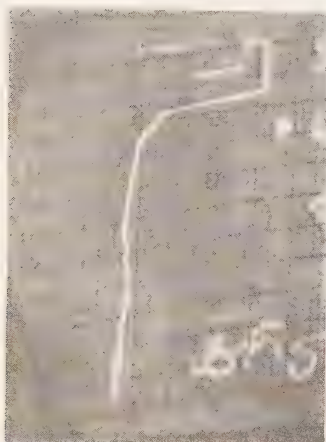
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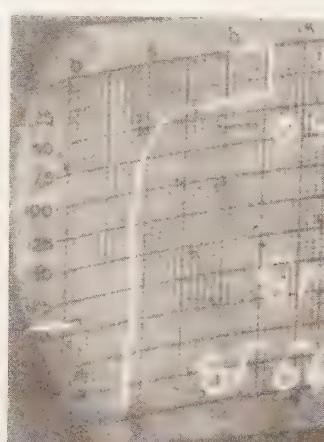
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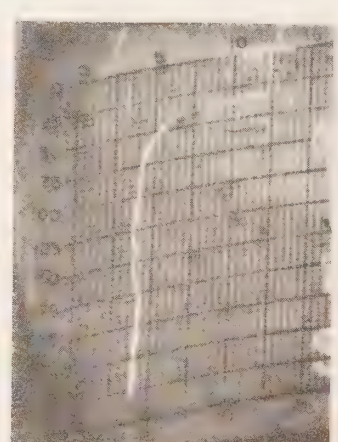
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143

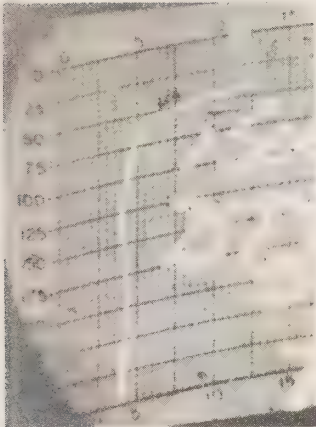


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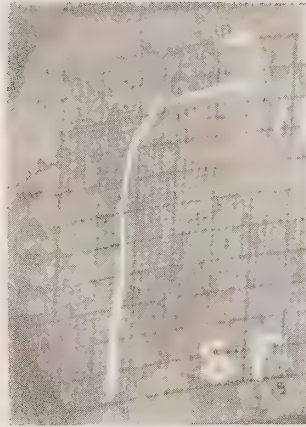


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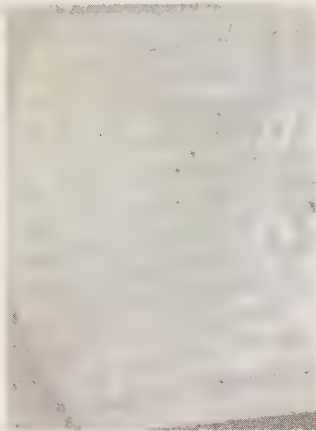
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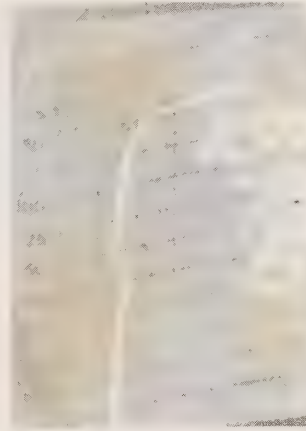
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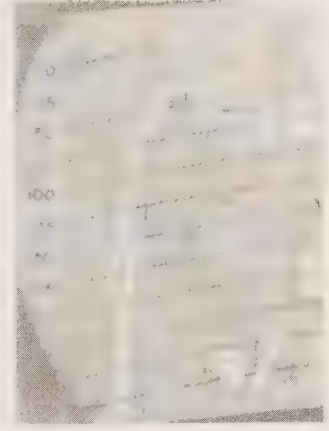
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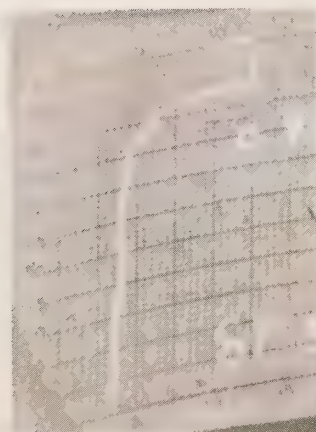
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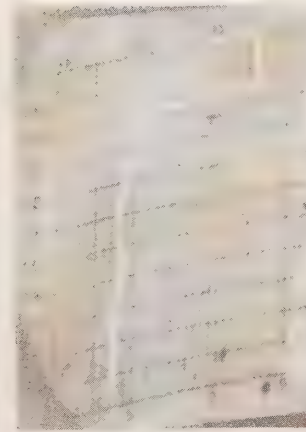
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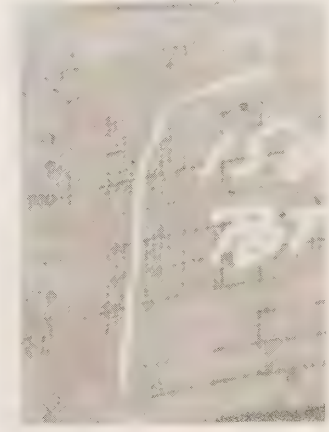
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154

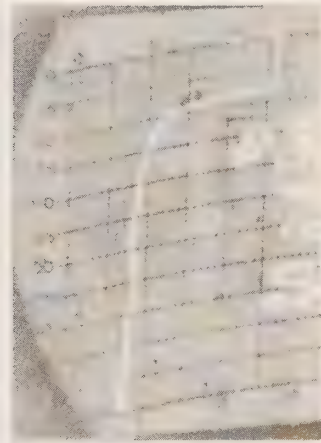




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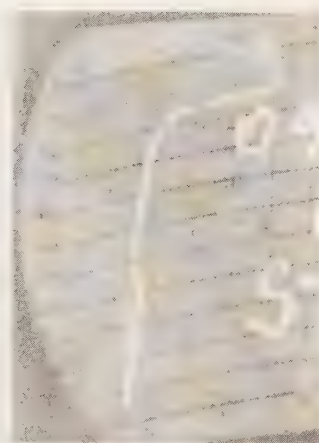
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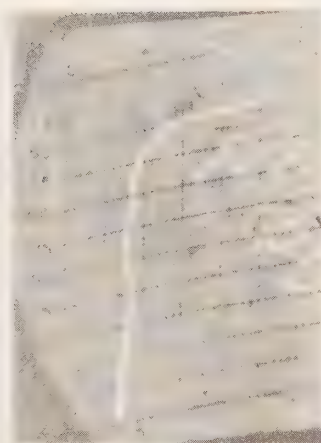
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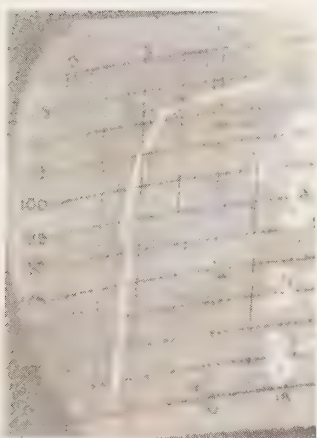
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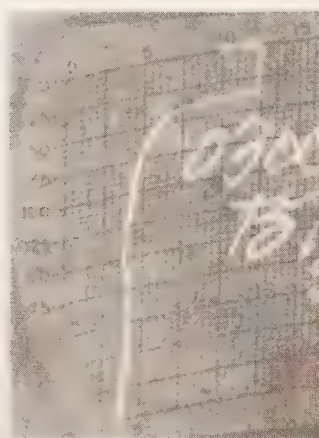
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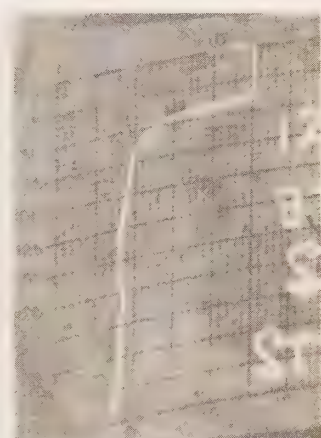
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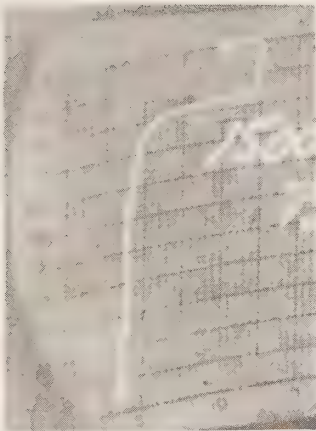
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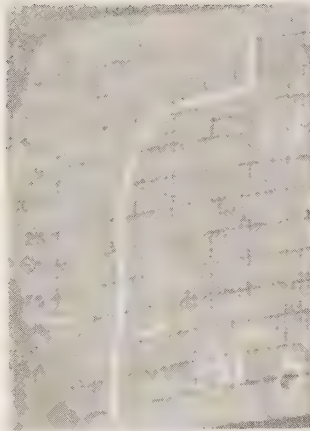
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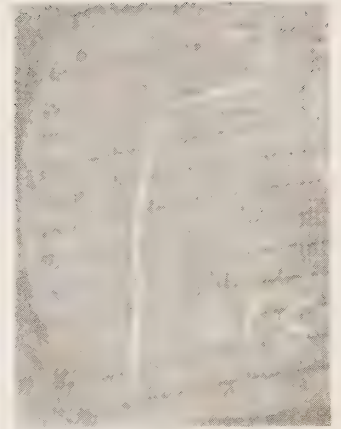
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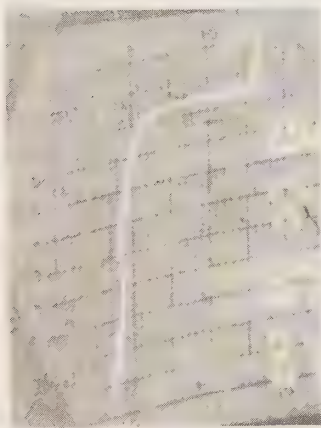
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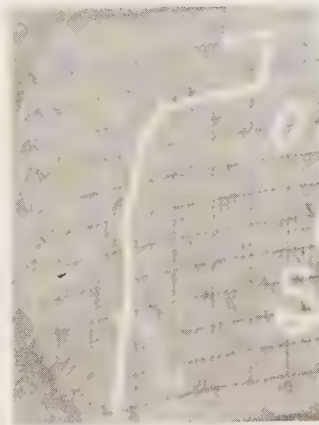
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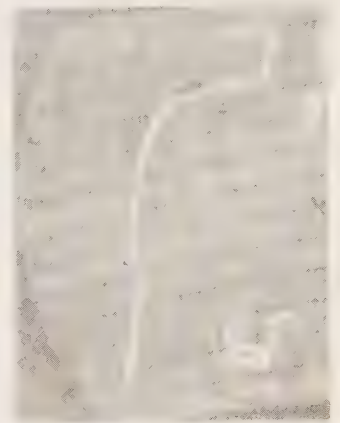
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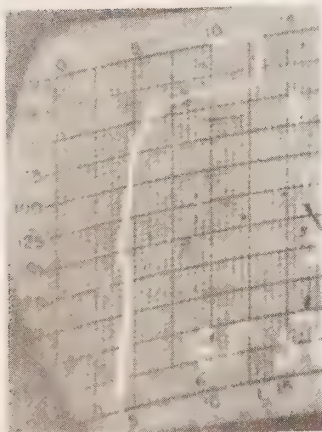
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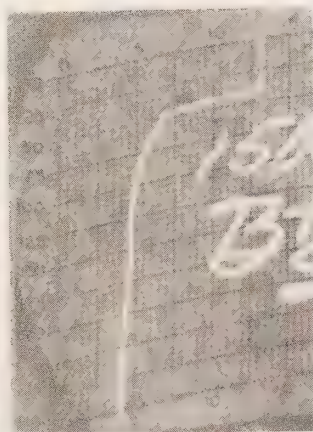
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171



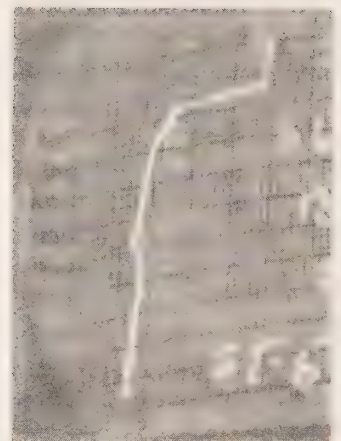
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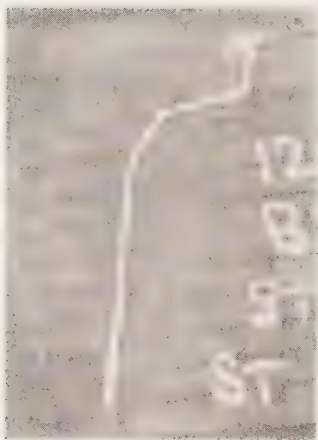
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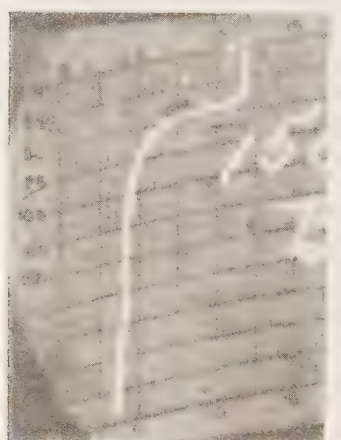
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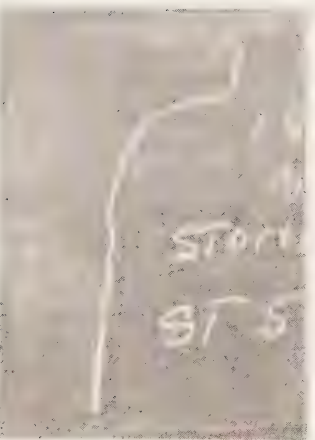
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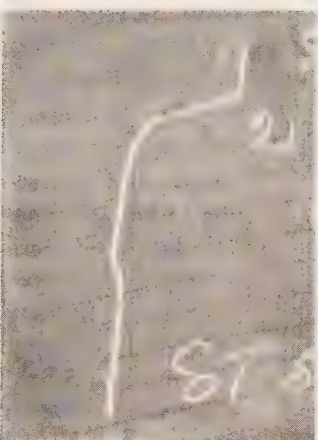
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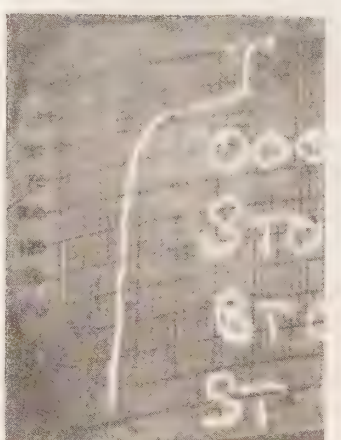
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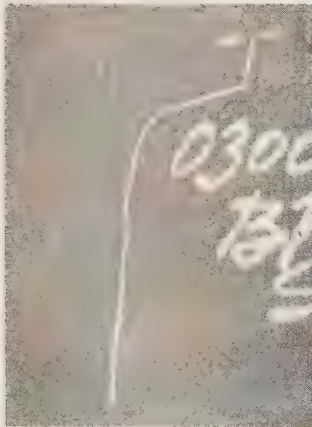


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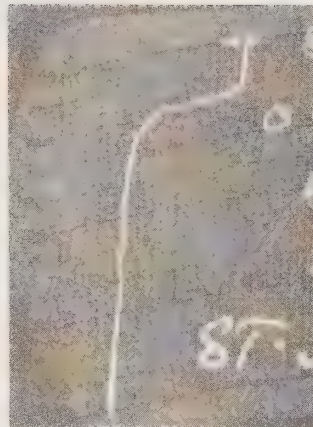


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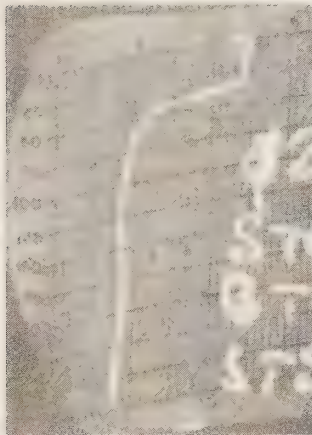
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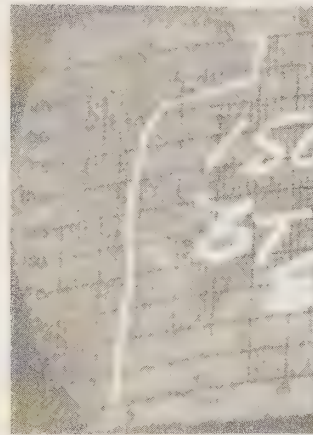
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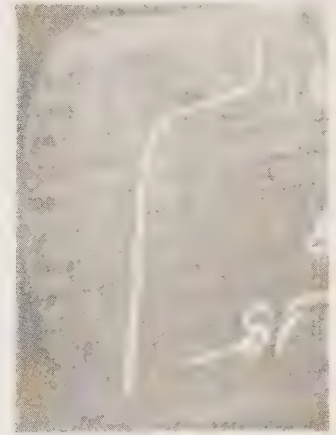
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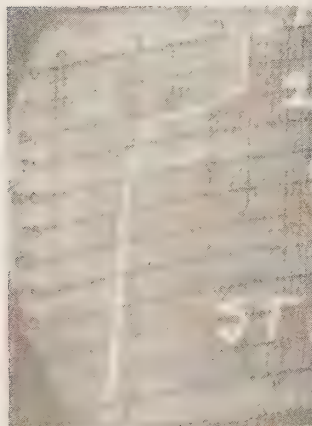
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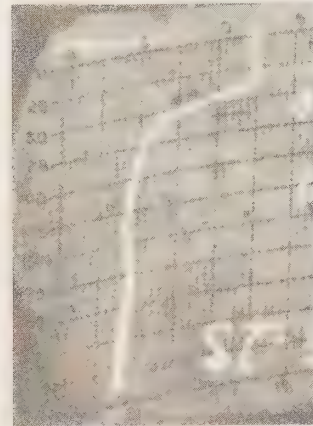
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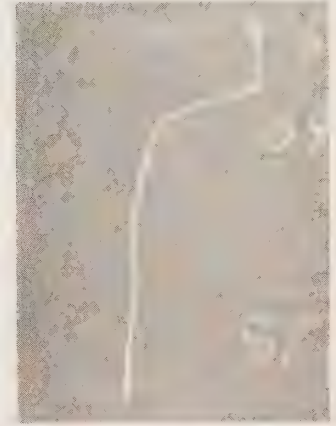
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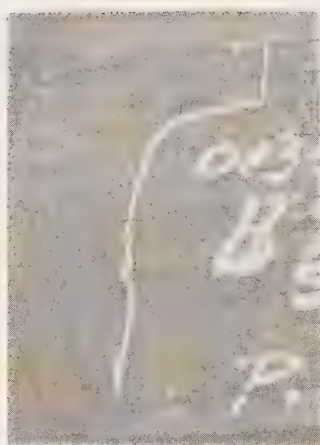
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## SECTION V

### Surface Salinity Data



## SURFACE SALINITY OBSERVATIONS

| Date - Time               | Position |           | Salinity |
|---------------------------|----------|-----------|----------|
| G.M.T.                    | Latitude | Longitude | ‰        |
| CCGS "VANCOUVER" - P-67-3 |          |           |          |
| 67-07-03-21.8             | 48°33' N | 125°32' W | 31.086   |
| 03-                       | 48°38'   | 126°00'   | 31.562   |
| 03-                       | 48°32'   | 126°40'   | 32.115   |
| 04-03.0                   | 48°47'   | 127°40'   | 32.038   |
| 04-05.2                   | 48°51'   | 128°40'   | 31.951   |
| 04-09.6                   | 49°00'   | 130°40'   | 31.914   |
| 04-14.0                   | 49°09'   | 132°40'   | 32.591   |
| 04-19.0                   | 49°18'   | 134°40'   | 32.455   |
| 04-23.4                   | 49°22'   | 136°55'   | 32.473   |
| 05-04.0                   | 49°34'   | 138°40'   | 32.544   |
| 05-08.6                   | 49°42'   | 140°40'   | 32.524   |
| 05-01.7                   | 49°49'   | 142°40'   | 32.537   |
| 06-00.0                   | 50°01'   | 145°06'   | 32.519   |
| 07-00.0                   | 50°00'   | 145°03'   | 32.503   |
| 08-00.0                   | 50°01'   | 144°47'   | 32.516   |
| 09-00.0                   | 50°02'   | 144°54'   | 32.527   |
| 10-00.0                   | 50°05'   | 144°47'   | 32.518   |
| 11-00.0                   | 50°00'   | 144°56'   | 32.516   |
| 12-00.0                   | 50°01'   | 144°58'   | 32.504   |
| 13-00.0                   | 50°02'   | 145°00'   | 32.501   |
| 14-00.0                   | 49°56'   | 145°04'   | 32.497   |
| 15-00.0                   | 50°00'   | 145°01'   | 32.517   |
| 16-00.0                   | 50°01'   | 144°59'   | 32.524   |
| 17-00.0                   | 49°58'   | 144°55'   | 32.505   |
| 18-00.0                   | 49°59'   | 145°01'   | 32.502   |
| 19-00.0                   | 50°04'   | 145°02'   | 32.469   |
| 20-00.0                   | 49°59'   | 144°53'   | 32.486   |
| 21-00.0                   | 49°56'   | 144°58'   | 32.481   |
| 22-00.0                   | 49°55'   | 144°59'   | 32.497   |
| 23-00.0                   | 49°58'   | 145°06'   | 32.483   |
| 24-00.0                   | 49°50'   | 145°02'   | 32.518   |
| 25-00.0                   | 50°03'   | 145°01'   | 32.513   |
| 26-00.0                   | 50°02'   | 145°00'   | 32.512   |
| 27-00.0                   | 50°03'   | 144°56'   | 32.514   |
| 28-00.0                   | 49°59'   | 145°03'   | 32.581   |
| 29-00.0                   | 49°54'   | 145°05'   | 32.625   |
| 30-00.0                   | 50°05'   | 144°58'   | 32.603   |
| 31-00.0                   | 50°02'   | 145°02'   | 32.586   |

## SURFACE SALINITY OBSERVATIONS

| Date - Time               | Position |           | Salinity   |
|---------------------------|----------|-----------|------------|
| G.M.T.                    | Latitude | Longitude | $\text{‰}$ |
| CCGS "VANCOUVER" - P-67-3 |          |           |            |
| 67-08-01-00.0             | 50°03' N | 144°58' W | 32.685     |
| 02-00.0                   | 50°00'   | 145°06'   | 32.525     |
| 03-00.0                   | 49°59'   | 145°03'   | 32.571     |
| 04-00.0                   | 50°01'   | 144°58'   | 32.642     |
| 05-00.0                   | 50°01'   | 144°58'   | 32.644     |
| 06-00.0                   | 50°01'   | 144°54'   | 32.560     |
| 07-09.1                   | 49°50'   | 142°40'   | 32.527     |
| 07-18.9                   | 49°41'   | 140°46'   | 32.494     |
| 07-22.8                   | 49°38'   | 139°40'   | 32.553     |
| 08-01.7                   | 49°34'   | 138°40'   | 32.492     |
| 08-06.9                   | 49°25'   | 136°49'   | 32.482     |
| 08-11.2                   | 49°22'   | 135°40'   | 32.460     |
| 08-13.5                   | 49°17'   | 134°40'   | 32.553     |
| 08-16.0                   | 49°15'   | 133°40'   | 32.369     |
| 08-19.0                   | 49°05'   | 132°40'   | 32.295     |
| 08-22.0                   | 49°05'   | 131°44'   | 32.544     |
| 09-01.0                   | 49°02'   | 130°40'   | 32.132     |
| 09-04.5                   | 48°55'   | 129°40'   | 32.120     |
| 09-08.2                   | 48°51'   | 128°40'   | 31.836     |
| 09-12.0                   | 48°46'   | 127°40'   | 31.821     |

## SURFACE SALINITY OBSERVATIONS

| Date - Time                      | Position |           | Salinity   |
|----------------------------------|----------|-----------|------------|
| G.M.T.                           | Latitude | Longitude | $\text{‰}$ |
| CCGS "STONETOWN" - Patrol No. 75 |          |           |            |
| 67-08-09-00.0                    | 50°04'N  | 145°00'W  | 32.481     |
| 10-00.0                          | 50°05'   | 145°00'   | 32.504     |
| 11-00.0                          | 49°59'   | 144°54'   | 32.467     |
| 12-00.0                          | 49°56'   | 144°55'   | 32.480     |
| 13-00.0                          | 49°58'   | 145°07'   | 32.491     |
| 14-00.0                          | 49°57'   | 145°00'   | 32.528     |
| 15-00.0                          | 50°00'   | 145°00'   | 32.486     |
| 16-00.0                          | 50°00'   | 145°00'   | 32.502     |
| 17-00.0                          | 50°01'   | 144°58'   | 32.514     |
| 18-00.0                          | 50°04'   | 145°07'   | 32.463     |
| 19-00.0                          | 50°01'   | 144°57'   | 32.443     |
| 20-00.0                          | 50°01'   | 145°07'   | 32.516     |
| 21-00.0                          | 50°00'   | 145°00'   | 32.510     |
| 22-00.0                          | 50°03'   | 145°07'   | 32.534     |
| 23-00.0                          | 50°00'   | 145°00'   | 32.689     |
| 24-00.0                          | 50°00'   | 145°00'   | 32.496     |
| 25-00.0                          | 49°56'   | 145°03'   | 32.448     |
| 26-00.0                          | 49°57'   | 145°01'   | 32.533     |
| 27-00.0                          | 50°00'   | 145°01'   | 32.472     |
| 28-00.0                          | 50°00'   | 145°00'   | 32.309     |
| 29-00.0                          | 50°00'   | 145°00'   | 32.390     |
| 30-00.0                          | 50°00'   | 145°00'   | 32.500     |
| 31-00.0                          | 50°01'   | 145°01'   | 32.475     |
| 67-09-01-00.0                    | 50°03'   | 145°05'   | 32.534     |
| 02-00.0                          | 50°01'   | 144°57'   | 32.543     |
| 03-00.0                          | 50°06'   | 145°02'   | 32.569     |
| 04-00.0                          | 50°00'   | 145°07'   | 32.532     |
| 05-00.0                          | 50°02'   | 145°00'   | 32.675     |
| 06-00.0                          | 50°01'   | 144°59'   | 32.508     |
| 07-00.0                          | 50°00'   | 145°01'   | 32.487     |
| 08-00.0                          | 50°00'   | 145°00'   | 32.606     |
| 09-00.0                          | 50°05'   | 144°57'   | 32.620     |
| 10-00.0                          | 50°00'   | 145°15'   | 32.726     |
| 11-00.0                          | 50°01'   | 145°06'   | 32.555     |
| 12-00.0                          | 50°00'   | 145°00'   | 32.513     |
| 13-00.0                          | 50°00'   | 145°00'   | 32.644     |
| 14-00.0                          | 50°04'   | 144°55'   | 32.653     |
| 15-00.0                          | 50°05'   | 144°52'   | 32.519     |
| 16-00.0                          | 50°00'   | 145°00'   | 32.576     |
| 17-00.0                          | 49°48'   | 144°57'   | 32.373     |
| 18-00.0                          | 49°55'   | 143°40'   | 32.634     |
| 19-00.0                          |          |           | 32.560     |



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| 3   | Gulf of St. Lawrence  | 10-67-008              |
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